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Appendix
Two Week Electives
INTRODUCTION

The Senior Electives Catalog contains descriptions of all approved electives offered at the James H. Quillen College of Medicine, East Tennessee State University. The objectives, duration, periods offered, and special requirements of each elective are described. The Senior Electives Catalog is also available on the College of Medicine Website: http://qcom.etsu.edu Course materials are listed under MS4 curriculum.

1. ETSU senior students are required to take sixteen (16) weeks of electives, no more than eight (8) weeks of electives in one specialty/subspecialty.

2. Students are allowed up to eight (8) weeks of away electives at LCME approved and/or Canadian institutions provided they have successfully completed all of the requirements of the freshman, sophomore, and junior years, including all remediations, and have successfully passed USMLE Step 1.

3. Exceptional circumstances may warrant requesting an exemption to this policy. Such requests must be submitted in writing to the Office of Academic Affairs and are subject to the approval of the Senior Elective Committee and the Executive Associate Dean for Academic and Faculty Affairs.

4. The student's elective schedule must be approved by her/his Advisor and the Senior Elective Committee before being acted on by the Office of Academic Affairs.

5. Policy governing the senior program is described in detail in the Guide to Planning the Senior Year. The Planning Guide is also available on the College of Medicine Website under MS4 curriculum.
Anatomy

ADVANCED NEUROBIOLOGY

Course Number: ANTY5001-1
JHQCOM

Instructors: Ronald H. Baisden, Ph.D.
Michael L. Woodruff, Ph.D.

Responsible Faculty: Ronald H. Baisden, Ph.D. - (423) 439-2012

Duration: 2 weeks

Periods Offered: 4 – 6 (Spring Semester)

Distribution of student’s time: Conferences/Lectures .........................25-75%
Laboratory Work ...........................................25-75%

Enrollment/Period: 2 maximum

Prerequisites: Freshman Medical Neurobiology or equivalent

Initial Meeting Place and Time: Stanton-Gerber Hall Rm. A-208

Objectives: The course is designed to allow the senior student to acquire additional knowledge in certain aspects of the Neurosciences. The particular topics to be covered will be arranged between the student and interest and needs. For example a student who plans a career in Radiology may like to go into depth on Cross Sectional Anatomy of the brain and correlation to radiographs and brain scans, one headed for Neurosurgery may be interested in brain dissection, or a student entering any of the clinical neural disciplines may have a need for an introduction to the scientific literature in a particular area of interest.

Course Outline: To be arranged between instructors and students.

Mechanics: The course will consist of a one to four week session. The actual day-to-day operation of the course will vary depending upon the needs of the student.

Evaluation: Evaluation of the student’s performance will be based on daily observation of the student’s participation in activities and knowledge as judged in informal question and answer sessions.
Anatomy

COMPUTERIZED AXIAL TOMOGRAPHY AND CROSS SECTIONAL ANATOMY

Course Number: ANTY5001-2
JCMCH, JHQCOM

Instructors: M.J. Airhart, Ph.D.
T.E. Kwasigroch, Ph.D.
G.F. Ramsey, M.D.

Responsible Faculty: M.J. Airhart, Ph.D. – (423) 439-2003

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
- Clinical Rounds ..................................................60%
- Conference/Lectures ...........................................10%
- Laboratory Work .................................................30%

Enrollment/Period: 2 maximum

Prerequisites: Medical Gross Anatomy; Surgery (3rd year)

Objectives: A two-week course for the senior student to expose him/her to the radiologic discipline of Computerized Axial Tomography and to reinforce the student's concept of Cross-Sectional Anatomy.

Course Outline and Mechanics:
Student will study in the Radiology Department at Johnson City Medical Center Hospital learning the clinical aspects of CAT scans from 8 a.m. to 2 p.m. daily. The student will report to Room 208, JHQCOM to study the Cross-Sectional Anatomy sections and to review recommended atlases for the remainder of the day.

Evaluation: Cognitive evaluation determined by an oral exam and daily observation of the students’ participation and performance.
**Course Number:** ANTY5001-3  
JHQCOM, VA, JCMCH

**Instructors:** M.J. Airhart, Ph.D.  
T.E. Kwasigroch, Ph.D.

**Responsible Faculty:** M.J. Airhart, Ph.D. - (423) 439-2003

**Duration:** 2 weeks

**Distribution of student's time:**  
- Conference/Lectures ............................................30%
- Laboratory Work (May be reduced by arranged rounds and/or surgical cases) ...................................70%

**Enrollment/Period:** 4 maximum

**Prerequisites:** Medical Gross Anatomy; Surgery (3rd year)

**Objectives:** A two-week laboratory and conference/lecture course designed to give the senior student a more in-depth exposure to the structural and functional anatomy of the upper and lower extremities. In addition, students may observe various Orthopedic-Surgical procedures in the mornings at the VA Hospital and JCMCH to reinforce various areas of each extremity.

**Course Outline and Schedule:**
- Day 1 - Axilla and Scapular region
- Day 2 - Deltoid region; flexor region of arm
- Day 3 - Flexor region of forearm and hand
- Day 4 - Extensor side of upper extremity
- Day 5 - Joints of upper extremity
- Day 6 - Gluteal region, Extensor and Adductor region of thigh
- Day 7 - Flexor region of thigh and Popliteal Fossa
- Day 8 - Post., Lat. and Ant. Crural regions
- Day 9 - Dorsum and Sole of foot
- Day 10 - Joints of lower extremity

**Mechanics:** Students may observe surgical procedures in the mornings at the VA Hospital and JCMCH. Students will dissect the specified area of the extremity in the afternoon and receive a 1-hour review and summary lecture on the specific topic.

**Evaluation:** Cognitive and non-cognitive evaluation will be via daily observation of student's participation and performance.
Anatomy

SURGICAL ANATOMY

Course Number: ANTY5001-5
JHQCOM, JCMCH, VA

Instructors: M.J. Airhart, Ph.D.
T.E. Kwasigroch, Ph.D.

Responsible Faculty: M.J. Airhart, Ph.D. - (423) 439-2003

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
Conferences/Lectures ........................................30%
Laboratory Work (May be reduced by arranged rounds and/or surgical cases). ..................................70%

Enrollment/Period: 4 maximum

Prerequisites: Medical Gross Anatomy; Surgery (3rd year)

Objectives: A two- or four-week laboratory or discussion experience designed to give the fourth year student an opportunity to reexamine the structure, function and relationships within various anatomical regions of the body. The regions to be dissected and schedule to be followed are determined by the students' individual needs, and career plans.

Mechanics: During elective, students may observe/assist in surgical procedures at the JCMCH and/or VA hospital as their schedule permits. The bulk of their time will be spent in the Gross Anatomy laboratory in a manner consistent with the above objectives.

Evaluation: Cognitive and non-cognitive evaluation will be via daily observation of student's participation and performance.

Initial Meeting Place & Time: Gross Anatomy Lab, Stanton-Gerber Hall, 8:00 A.M.
Biochemistry

RESEARCH IN BIOCHEMISTRY

Course Number:  BCHM5001-1
                 JHQCOM

Instructors:    Biochemistry Faculty

Responsible Faculty:  Dr. Scott Champney – 423-439-2022

Duration:       8 weeks

Periods Offered: All

Distribution of student's time:
- Conferences/Lectures - Varies according to nature of project
- Laboratory Work - Varies according to nature of project

Enrollment/Period: 6 maximum

Prerequisites:  Open only to senior medical students.

Objectives:  Investigation of a biochemical problem in the laboratory and/or a literature review of selected topics.

Outline:  To be arranged between professor and student.

Mechanics:  Varies with selected objective.

Methods:  Individual consultation.

Course Schedule:  TBA

Evaluation:  Pass/Fail based on the evaluation by the major professor of a written laboratory report and literature review prepared by the student.
Emergency Medicine

EMERGENCY MEDICINE

Course Number: EMED5001-1
BRMC

Instructors: Charles Backus, D.O.

Responsible Faculty: Charles Backus, D.O. - (423) 844-2100

Duration: 2 weeks

Contact: Charlene Perrigan – (423)-844-4610

Periods Offered: All

Distribution of student’s time: Outpatient Care …………………………………….100%

Enrollment/Period: 1 maximum

Prerequisites: Permission of Instructor

Description: The course is designed to provide experience in the approach to medical and surgical emergencies in an emergency room setting of a community hospital. Under direct supervision of the emergency physician staff, the student will have the opportunity to take histories, examine patients, order and interpret x-rays and other tests involved in establishing a diagnosis and in planning and carrying out treatment and disposition of patients, which may involve admission or referral to an appropriate clinic or other facility for follow-up. An important emphasis is placed on the ability to make decisions on a limited database, which is often required in the emergency situation. The student will learn first hand the care of patients with acute medical problems such as coronary occlusions and diabetic emergencies, and acute trauma and other surgical emergencies. Emphasis is placed on the immediate care of patients, controlling hemorrhage, maintaining an open airway, and resuscitation when necessary. Experience will be offered in the treatment of many acute and semi-acute problems such as wounds and infections (including suturing, incision and drainage, and splinting and casting of fractures), pulmonary dysfunction, acute hemorrhagic disorders, acid-base and other fluid abnormalities, etc.

Mechanics and Methods: Preceptorship

Course Schedule: Forty hours per week in flexible schedule to be arranged.

Evaluation: Based upon performance during preceptorship.
Emergency Medicine

EMERGENCY MEDICINE

Course Number: EMED5001-2
JCMCH

Instructors: Suzanne Allen, M.D. James Luna, M.D.
Kendall H. Boyd, M.D. Garik Misenar, M.D.
Chris Gillespie, M.D. Illuri Reddy, M.D.
Luke Lee, M.D. Clay Runnels, M.D.
Nathaniel Lee, M.D. Mark Wilkinson, M.D.

Responsible Faculty: Clay Runnels, M.D. – (423) 431-6348

Contact: Amber Flint – (423) 431-6348

Duration: 2 weeks

Periods Offered: All

Distribution of student’s time: Outpatient Care ..................................................100%

Enrollment/Period: 1 maximum

Description: The course is designed to provide experience in the approach to both medical and surgical emergencies in an emergency room setting of a community hospital. Under direct supervision of the emergency physician staff, the student will have the opportunity to take histories, examine patients, order and interpret x-rays and other tests involved in establishing a diagnosis and in planning and carrying out treatment and disposition of patients, which may involve admission or referral to an appropriate clinic or other facility for follow-up. An important emphasis is placed on the ability to make decisions on a limited database, which is often required in the emergency situation. The student will learn firsthand the care of patients with acute medical problems such as coronary occlusions and diabetic emergencies, and acute trauma and other surgical emergencies. Emphasis is placed on the immediate care of patients, controlling hemorrhage, maintaining an open airway, and resuscitation when necessary. Experience will be offered in the treatment of many acute and semi-acute problems such as wounds and infections (including suturing, incision and drainage, and splinting and casting of fractures), pulmonary dysfunction, acute hemorrhagic disorders, acid-base and other fluid abnormalities, etc.

Mechanics and Methods: Preceptorship

Course Schedule: Will work the evening or night shift with a preceptor and/or resident.

Evaluation: Based upon performance during preceptorship. May include a written or oral examination.
Emergency Medicine

EMERGENCY MEDICINE

**Course Number:** EMED5001-3
HVHMC

**Instructors:** William D. Hudson, M.D.
Patrick Spivey, M.D.

**Responsible Faculty:** William D. Hudson, M.D. - (423) 224-5111

**Duration:** 2 weeks

**Periods Offered:** All

**Distribution of student's time:** Outpatient Care ...........................................100%

**Enrollment/Period:** 1 maximum

**Description:** The course is designed to provide experience in the approach to medical and surgical emergencies in a busy emergency room and Level I Trauma Center. Under direct supervision of the emergency physician staff, the student will have the opportunity to take histories, examine patients, order and interpret x-rays and other tests involved in establishing a diagnosis and in planning and carrying out treatment and disposition of patients, which may involve admission or referral to an appropriate clinic or other facility for follow-up. An important emphasis is placed on the ability to make decisions on a limited database, which is often required in the emergency situation. The student will learn firsthand the care of patients with acute medical problems such as coronary occlusions and diabetic emergencies, and acute trauma and other surgical emergencies. Emphasis is placed on the immediate care of patients, controlling hemorrhage, maintaining an open airway, and resuscitation when necessary. Experience will be offered in the treatment of many acute and semi-acute problems such as wounds and infections (including suturing, incision and drainage, and splinting and casting of fractures), pulmonary dysfunction, acute hemorrhagic disorders, acid-base and other fluid abnormalities, etc.

**Mechanics and Methods:** Elective

**Course Schedule:** Will be assigned a preceptor and will work the same shifts as the preceptor.

**Evaluation:** Based upon performance during elective. A written and/or oral examination may also be given.
Family Medicine

ADVANCED MEDICAL INTERVIEWING NEGOTIATION SKILLS

Course Number: FMED5001-1

Instructors: Mike Floyd, Ed.D. Forrest Lang, M.D.
Evelyn Kemp, Ph.D. Thomas Townsend, M.D.

Responsible Faculty: Forrest Lang, M.D. - (423) 439-5828

Course Coordinator: Connie Clyburn - (423) 439-6740

Duration: 2 or 4 weeks

Periods Offered: By special arrangement; most time periods are possible

Distribution of student’s time:
Videotaping real & standardized patients
(in our rural and Tri-Cities site) ....................... 40%
Didactic and workshop instruction ..................... 10%
Faculty tape review ..................................... 30%
Self-study ................................................. 20%

Enrollment/Period: 2 maximum per period

Prerequisites: Pre-Clinical Interviewing Course and Junior Clerkships in Medicine

Mission: The medical interview is central to accurate diagnosis. The patient-centered clinical model of interviewing is central to helping patients handle their pain (physiologic or psychologic), and is the backbone effective of health negotiations and plan development. Successful patient interviews serve to strengthen the bond between patient and physician. Without directed instruction in this area, physicians regularly make preventable mistakes of omission or commission. They use a limited number of strategies to resolve conflict. This course brings together resources to improve cognitive and performance aspects of the medical interview.

Course Outline: Students will interview random patients in the family practice centers and nursing home. These interviews will be taped and the student will review interesting and problematic encounters with faculty. There will also be exposure to difficult simulated patient situations. Students will travel to ETSU’s family practice clinic sites and rural campus, the geriatric site, and possibly other sites to broaden their exposure.

Objectives: Cognitive:
Students will learn a conceptual model of interviewing (patient-center method), difficult doctor/patient interactions, group and family interviewing, health education and adult learning theories, and the impact of culture on interviewing. They will learn and practice a variety of skills for negotiating common ground with patients.
Behavioral:
Students will:

1. Demonstrate the ability to facilitate the patient’s expression of issues and concerns without redirecting or refocusing by identifying patient clues, cues, and prompts to unexpressed information and feelings,
2. Be able to handle, anticipate, explore, and respond to frequent “emotionally charged” events,
3. Adequately perform in an extended care facility in an appropriate geriatric interview addressing terminal care plans,
4. Perform an interview using the “Patient Centered Clinical Method Approach”,
5. Reach “common ground” with a patient through negotiation to bring together the patient’s illness perspective and the doctor’s diagnostic perspective,
6. Acquire skills in therapeutic interviewing, i.e. the interview as an instrument in behavior change.

Rotation Locations: The rotation will involve the Department of Family Medicine’s clinical training sites in Bristol, Kingsport, Johnson City, and Mountain City, Tennessee. The National Health Care Center located in Johnson City will be used for geriatric sessions.

Text: An anthology of selected required readings will be distributed.

Evaluation: Students will be evaluated on their:

1. Motivation and interest in developing doctor/patient skills
2. Selection of interesting and challenging material for faculty and group video review sessions
3. Group interaction and facilitation skills
4. Demonstrated interview skills in real and simulated patient encounters.
Family Medicine

APPALACHIAN PRECEPTORSHIP
Assigned Rural Setting

Course Number: FMED5001-2
Instructor: Rural Community Based Family Physicians - contact the Department of Family Medicine for a descriptive brochure
Responsible Faculty: Forrest Lang, M.D. - (423) 439-5828
Course Coordinator: Carolyn Sliger - (423) 439-6737

Course Offered/Duration:
The preceptorship is offered during the summer* and is four weeks in duration. The annual didactic portion will be offered during July, usually beginning with the Friday after the fourth of July and concluding the following Friday. Students in the summer preceptorship should arrange their schedules to include the July didactic week. It is common for students to have different beginning and ending dates for the overall preceptorship. Some students will begin with the didactic portion and others will begin with their physician preceptor. Contact the Department for the exact dates for the didactic portion.

*Upon prior application and acceptance, students may complete the course at other times during the year when positions are available. (Please see application process below.)

Distribution of student's time:
Outpatient Care……………………………………..75%
Inpatient Care……………………………………..10%
Clinical Rounds…………………………………….5%
Conferences Lectures…………………………….5%
Laboratory Work…………………………………..5%

Enrollment/Period: 15 maximum annually
Application Process: Applications must be received by March 15 of the year in which the student wishes to participate. Positions are available beginning June 1, through May 31, of the following year. Those accepted into the program will be notified by late April. Please contact the Department of Family Medicine for an application form.

Prerequisites: Permission of the Responsible Faculty is required and completion of a third-year Family Practice clerkship is preferred. All students must be in good standing at their medical school at the time of application and entry into the preceptorship.
Mission: The Appalachian Preceptorship is designed to expose medical students to rural primary care practiced in a manner sensitive to the culture. Students will participate in one week of didactic sessions on the ETSU campus and spend three weeks with a rural physician practicing in an Appalachian community. Students will benefit from the cross-cultural experience, whether they choose to practice in Appalachia, urban areas, or other communities throughout the nation. This elective is approved for credit as a required ambulatory family medicine rotation, or as a senior elective.

Course Outline
Office Preceptorship: All students will spend at least three weeks with a physician practicing in a rural Appalachian community. The preceptors are dedicated to excellence in patient care and community relationships, and they serve as role models for students. The nature of the clinical and community involvement will vary based on the level of training of the student, the interest of the student, and the individual characteristics of the practice. This involvement will be more observational and circumscribed for pre-clinical students. Clinical students will have more direct clinical involvement with supervision from the preceptor. Students will also participate in a patient or community outreach project involving two or three half days per week. This project will include, but not be limited to, community activities such as community health education sessions. It may also require observation and collection of data as part of a continuing effort by the preceptors to define more clearly their practice and their community.

Didactic Sessions: The week of didactic sessions is comprised of concentrated lectures on such subjects as Appalachian history, rural health issues, alternative health systems, interviewing from a cultural and personal perspective, and Appalachian economics. All lectures hold special significance for rural family practitioners, especially in the Appalachian region. Several area rural physicians participate in panel discussions in which they share information about their community involvement and describe what it is like to practice in a rural community. In addition, a number of field trips may be scheduled to look at a variety of models of health care delivery in the area, a view of local economics, and culturally sanctioned health care alternatives. A variety of recreational activities are planned each year. These may vary with the interests of each group. Past activities have included white water rafting, hiking, backpacking, boating, fishing, volleyball, and trips to local attractions.

Location/Instructor: Community-based family physicians in Northeast Tennessee, Southwest Virginia, Western North Carolina, and Eastern Kentucky serve as preceptors for this elective. All sites are rural; some are agricultural, while others are predominantly mining communities.

Didactic week faculty include physician and non-physician faculty members in the Department of Family Medicine, rural family practice physicians, resource persons from ETSU's Center for Appalachian Studies and Services, and the Archives of Appalachia.

Stipend: The Department of Family Medicine receives grant support for the Appalachian Preceptorship. This grant stipend support is available to students who are interested in family medicine and who have a financial need. This stipend should be sufficient to cover lodging, food, and travel.
Family Medicine

**Lodging:** Lodging will be arranged by the preceptor at the rural preceptorship site. Living in the rural community is intended to increase student-community involvement. Lodging expenses are the responsibility of the student and can come from the grant stipend support. During the didactic week, lodging will be provided on the ETSU Campus at no charge.

**Transportation:** Because of the remote locations of many of the sites and lack of mass transportation, the availability of a car during the rotation is necessary.

**Evaluation:** Periodic feedback will be provided to the student, as well as a final evaluation by the preceptor. An evaluation of the rotation by the student will be expected at the end of the rotation.
RESEARCH IN FAMILY MEDICINE

**Course Number:** FMED5001-3

**Instructors:** Faculty and Family Medicine

**Responsible Faculty:** Fred Tudiver, M.D.

**Course Coordinator:** Connie Clyburn - (423) 439-6740

**Duration:**
This elective is offered monthly for two to eight weeks, depending on the nature of the research project. The student should consider taking this elective in two, two-week segments, with an intervening period for data collection while participating in another rotation. (This might be combined with another elective such as the Appalachian Preceptorship.)

Such a schedule would look like the following:

- **2 weeks:** Research Elective B review relevant research methodology and design and plan the research project.
- **4 weeks:** Clinical Elective B collect research data while participating in a clinical setting.
- **2 weeks:** Research Elective B data analysis and summarization of findings.

**Distribution of student's time:**
Will depend on the nature of the research project

**Enrollment/Period:**
1 maximum per month

**Prerequisites:**
A capacity for organized curiosity.

**Objectives:**
1. To be able to understand the importance of research in Family Medicine,
2. To be able to phrase a research question,
3. To be able to develop an appropriate research design and understand the reasons for choosing between alternatives,
4. To be able to develop and implement an appropriate data collection process,
5. To be able to analyze data, interpret results, and organize findings in a reportable format.

**Course Outline, Mechanics, and Methods of Instruction:**
The format for the course will be worked out with the instructor(s). Readings will encompass both research methods and the student’s area of research interest within family medicine. Such areas may include issues in community medicine, family dynamics, health behavior, cultural aspects of health and illness, or specific ambulatory health problems. Students will develop individualized course of instruction with input from the research director.

**Evaluation:**
Direct observation of student's work. Evaluation of the research project by Research Director, other Family Medicine faculty, and other relevant faculty of the College of Medicine.


Family Medicine

SENIOR FAMILY MEDICINE

Course Number: FMED5001-4

Instructors: Faculty in Bristol, Johnson City, Kingsport

Responsible Faculty: Forrest Lang, M.D. – (423) 439-5828

Course Coordinator: Connie Clyburn - (423) 439-6740

Duration: This elective is offered for two to four weeks per location for a maximum of six weeks total.

Periods Offered: All except 1a,b

Distribution of student’s time:
- Inpatient Care........................................30%
- Outpatient Care......................................30%
- Clinical Rounds.....................................20%
- Conferences/Lectures..............................10%
- Laboratory Work....................................10%

Enrollment/Period: 2 maximum per month

Prerequisites: Permission of the Responsible Faculty and completion of a third-year Family Practice clerkship are required. All students must be in good standing at their medical school at the time of application and entry into the elective.

Objectives: The aim of the senior Family Medicine elective is to provide the student with experience in the care of both inpatients and outpatients in any of the ETSU Family Practice Centers, which are located in Bristol, Kingsport, and Johnson City. This experience will provide in-depth exposure to family medicine, resulting in an increased understanding of the depth and breadth of family practice.

Responsibilities: The senior clerk responsibilities may include:

1. Following and managing assigned inpatients on a daily basis, performing history and physicals, conducting daily evaluations, writing admission orders, writing daily orders and progress notes, performing selected procedures, managing discharge planning, and completing discharge summaries. These activities will be under the supervision of senior residents and the attending faculty.

2. Evaluating and managing assigned outpatients on a daily basis, including appropriate history and physicals, assessments, and plans. The clerk will complete the encounter form, the “SOAP” note, evaluate lab results, and perform selected procedures. These activities will be performed under the supervision of the preceptor. The student may be videotaped during the encounters, if desired.


Family Medicine

3. Attending all conferences, including noon conferences and Grand Rounds.

4. Taking in-house call on a rotating basis with other students. During these evenings, the student will be involved in the activities of the residents on call, including working up assigned patients and managing selected problems. The call will be all night with facilities furnished.

5. Expanding his/her skills through outpatient management by working with the clinical psychologist, performing lab procedures with the lab technician, and managing a panel of nursing home patients.

6. Making brief presentations to the attending, students and residents on the family practice service or other community agencies.

Location: The Department of Family Medicine’s Family Practice Centers in Bristol, Kingsport, and Johnson City, Tennessee serve as clinic sites for this elective. Students may indicate their choice of clinic site(s).

Evaluation: Periodic feedback will be provided to the student, as well as a final evaluation. An evaluation of the rotation by the student will be expected at the end of the rotation.
**Family Medicine**

**SENIOR RURAL FAMILY MEDICINE**

**Course Number:** FMED5001-5

**Instructors:** Community Based Family Physicians

**Responsible Faculty:** Joe Florence, M.D.

**Course Coordinator:** Carolyn Sliger - (423) 439-6737

**Duration:** 4 weeks

**Periods Offered:** All except 1a, 1b

**Distribution of student's time:**
- Outpatient Care ........................................40%
- Inpatient Care ...........................................30%
- Clinical Rounds ...........................................30%

**Enrollment/Period:** 2 maximum per month

**Prerequisites:** Permission of the Responsible Faculty and completion of a third-year Family Practice clerkship are required. All students must be in good standing at their medical school at the time of application and entry into the elective.

**Mission:** The Senior Rural Family Medicine elective is designed to expose medical students to rural primary care practiced in a manner sensitive to the culture of rural Appalachia. All students will spend four weeks with a physician practicing in a rural Appalachian community. The preceptors are dedicated to excellence in patient care and community relationships, and they serve as role models for students. The nature of the clinical and community involvement will vary based on the level of training of the student, the interest of the student, and the individual characteristics of the practice. All students will be involved in direct patient care with supervision of the preceptor.

**Objectives:** The aim of the rural family medicine preceptor for the Senior Rural Family Medicine elective is to provide the student with experience in the care of both inpatients and outpatients of the rural clinic, with increased responsibilities over that required by the third-year clerks. This experience will provide an in-depth exposure to rural communities resulting in an increased understanding of the depth and breadth of rural family practice.

**Responsibilities:** The student's responsibilities may include:

1. Following and managing assigned inpatients on a daily basis, perform history and physicals, conduct daily evaluations, write admission orders, write daily orders and progress notes, perform selected procedures, manage discharge planning, and complete discharge summaries. These activities will be under the supervision of the rural family medicine preceptor.
Family Medicine

2. Taking in-house call with the rural family medicine preceptor. During these evenings the student will be involved with working up assigned patients and managing selected problems.

3. Making brief presentations to the rural family medicine preceptor or other community agencies.

Location:/Instructor: Community-based family physicians in Northeast Tennessee, Southwest Virginia, Western North Carolina, and Eastern Kentucky serve as preceptors for this elective. All sites are rural; some are agricultural, while others are predominantly mining communities.

Evaluation: Periodic feedback will be provided to the student, as well as a final evaluation. An evaluation of the rotation by the student will be expected at the end of the rotation.
Family Medicine

INTERNATIONAL PRIMARY CARE ELECTIVE

Course Number: FMED5001-6
Instructor: TBD

Responsible Faculty: Forrest Lang - (423) 439-5828
Course Coordinator: Connie Clyburn (423) 439-6740

Duration: 4 weeks

Periods Offered: 1c, 1d, or by special arrangement

Distribution of student's time:
- Inpatient Care.................................10%
- Outpatient Care...............................60%
- Clinical Rounds/Community Activities........10%
- Conferences/Lectures.......................20%

Enrollment/Period: 2 maximum

Prerequisites: Permission of Responsible Faculty, permission of Dr. Forrest Lang and completion of third year Family Practice clerkship. ETSU students only.

Mission:
This rotation is designed to provide senior medical students with an international clinical experience grounded in a cultural, historical, political and economic context of Ecuador. Through this experience, students will be given the opportunity to gain knowledge and skills in the areas of the cultural context of medicine, the diagnosis and management of diseases common in other countries, low-technology medicine, the role of physicians in public health, and patient access to care. These issues are all pertinent to family medicine.

Objectives:
1. To provide a clinical experience in the primary care and rural medicine in Ecuador
2. To provide a training experience with a focus on the cultural context of health care, including an increased sensitivity to community and cultural factors inherent in the medical system
3. To provide students a context in which to evaluate the successes and failures of rural medical practices, both in the USA and Latin America
4. To provide a community-based submersion experience in international primary care.

Course Outline:
Students will participate in a sociocultural orientation to the Sierra region of Ecuador. This will be conducted jointly through personnel at East Tennessee State University and the Andean Culture Department at the University of Bolivar, Guaranda, Ecuador. Students will then work with a variety of primary care physicians, on site, in both rural outpatient and inpatient settings.
Family Medicine


Evaluation: An evaluation of student performance will be completed jointly by ETSU supervisors and the primary care physicians with whom the students worked. The students will also complete an evaluation of the elective.

Funding: Funds to help defray the cost of travel may be available pending grant awards. Funding will be discussed on a case-by-case basis.
Family Medicine

HOME HEALTH HOSPICE

Course Number: FMED5001-7
JC Family Practice Center

Instructors: Max Bayard, M.D.

Responsible Faculty: Max Bayard, M.D.

Course Coordinator: Connie Clyburn (423) 439-6740

Duration: 2 weeks

Period Offered: All

Distribution of Students Time:
Outpatient Care ........................................60%
Conferences/Lectures ................................40%

Enrollment: 2 maximum

Prerequisites: Senior Medical Student

Initial Meeting Pace and Time:
Dr. Bayard’s Office, Johnson City Family Practice Center

Objectives:
A. Accompany home health nurses and participate in the care of homebound patients. Activities will include the following:
   1. Evaluation of new patients
   2. Assessment of needs and appropriate referrals
      a. Wound Care
      b. Catheter, IV placement
      c. Laboratory
      d. Physical therapy
      e. Others

B. Accompany hospice nurses and participate in care of hospice patients. Activities will include the following:
   1. Evaluation of new patients
   2. Assessment of needs, including physical, emotional, social, spiritual
   3. Assessment of pain control

C. Participate in home health and hospice team meetings with physician, nurses, therapists, and social workers

D. Learn the appropriate use of home nursing care and hospice care
   1. Who is likely to benefit from home care/hospice?
   2. Regulations concerning eligibility for home care/hospice
   3. Multi-disciplinary services that are available.

Course Outline: Two-week rotation will consist of half-day orientation, focus on appropriate use of home health, services offered, and relationship between home health nurses and physicians. Students will participate in weekly hospice team meetings and home health case conferences. Remainder of the time will be spent in patients’ houses with home health or hospice nurses, physical therapy, wound-care specialist, and/or social workers.
Family Medicine

Method of Instruction: Predominantly through hands-on participation in the above activities. Individual time to be scheduled for meeting with Home Health Medical Director, Social Worker (to discuss community services available), Intake coordinator, Hospice Director and Home Health Director. Self-study material will be given covering topics such as wound care, regulatory issues, and reimbursement issues.

Evaluation of Students: Students will be evaluated on Pass/Fail basis in similar format as other fourth year electives. Students will be provided the College of Medicine course evaluation form.
CONTEMPORARY ISSUES IN BIOETHICS

Course Number: INTD5001-1
Various ETSU and JCMC Sites

Instructors: From Medicine, Nursing, Social Work, Emmanuel School of Religion, and JCMCH Chaplains

Responsible Faculty: Robin Lennon-Dearing, Ph.D., MSW, lennon@etsu.edu

Duration: Spring Semester*

Distribution of student's time: Conferences/Lectures.................................100%

Prerequisites: Bachelor's Degree

Course Schedule: *Weekend format --
Orientation: 5:00-8:30pm - TBA
Classes – Fridays, 5:00-8:30 pm - TBA
Saturdays, 8:30am - 4:30 pm - TBA

Objectives: At the completion of this course, the student will be able to:

1. Articulate the theoretical foundation of bioethics;
2. Participate as an interdisciplinary health care team member from the respective role and code of ethics of each discipline;
3. Analyze classic bioethical cases of common concern to health care professionals from different disciplines using ethical reasoning and a decision-making process;
4. Evaluate the ethics of research on human subjects;
5. Synthesize the role and responsibilities of an ethics consult; and
6. Evaluate how local communities address specific ethical dilemmas.

Course Overview: This course focuses on theoretical foundations of bioethics, the interface of morals, ethics and law, specific ethical dilemmas of common concern to health care professionals, and the conduct of research within ethical parameters. This web-enhanced course through Desire2Learn will engage students from multidisciplines in dialogue to examine ethical dilemmas.

Content Outline: Interactions within healthcare team.
Decision-making in the context of moral dilemmas
Ethical theories and principles
Relationship among morals, ethics and the law
Professional codes and obligations
Ethics in health care research
   Informed consent and confidentiality
   Proxy decision making
Selected bioethical issues related to
   Reproductive technology
   End of life issues
   Eugenics
   Health policy

Methods of Instruction: Seminar/discussion, student presentations, guest speakers/panel; readings from required text
Interdepartmental

Evaluation:
1. Oral presentation
2. Scholarly paper (APA format)
3. Active class participation
4. Book Review
5. Reflective Questions

Required Text:
**Interdisciplinary**

**WOMEN’S HEALTH ACROSS THE LIFESPAN**

**Course Number:** INTD5001-2
VARIOUS ETSU & JCMC SITES

**Instructors:** Frederick Jelovsek, M.D.  Merry Miller, M.D.
Theresa Lura, M.D.  Other ETSU Faculty

**Responsible Faculty:** Theresa Lura, M.D. – (423) 439-8871

**Contact:** Kim Harvey - (423) 439-8871

**Duration:** 4 weeks

**Periods Offered:** All, except periods 1a,1b and 3c,3d

**Distribution of** Divided among patient care, didactics, and chart/literature reviews. May involve case reports of patients the student has seen during rotations.

**Enrollment/Period:** 1 maximum

**Prerequisites:** Completion of third year coursework.

**Initial Meeting Place:** Johnson City Family Practice Center, 917 W. Walnut St., 9:00 a.m., 1st day of Rotation; Ms. Kim Harvey (423) 439-8871

**Objectives:** To provide an outpatient interdisciplinary experience in the care of women from adolescence through geriatrics in a variety of settings including family medicine, gynecology, psychiatry, surgical oncology, cardiology, adolescent care, geriatrics and pathology. Specifically, elective participants will learn: interpretations of pap, colposcopy and breast slides read with the pathologist.

**Course Outline:** Clinical experiences with female patients in geriatrics, adolescent medicine, adolescent gyn, psychiatry, including work with patients with eating disorders, family medicine, cardiology, pathology, gynecology including pelvic relaxation and pelvic pain problems, surgical oncology, specifically breast cancer and endocrinology

Readings and didactic components will include such areas as biology, physiology, endocrine, developmental tasks, exercise physiology, nutrition, pharmacology, prevention, psychology, women's studies, alternative medicine and selections from the lay press. Additional experiences may be included to meet the student's own learning objectives.

**Methods of Instruction:** Some group and one-on-one clinical experiences, instruction and precepting, one-on-one lecture/discussion, participation in ob/gyn didactics and Family Medicine lectures and workshop days as appropriate to women’s health, selected readings from texts, lay press, and articles.

**Evaluation:**
1. Presentation to course faculty, students, and residents in OB/GYN and/or Family Medicine on same or different topic (30%)
2. Clinical preceptor evaluations (70%)
Internal Medicine

CARDIOLOGY

Course Number: IMED5001-2
JCMCH

Instructor: Christopher Downs, M.D.
Tariq Haddadin, M.D.
Philip Henry, M.D.
Steven Smith, M.D.

Responsible Faculty: Philip Henry, M.D. - (423) 232-4884

Duration: 2 Weeks

Periods Offered: All

Distribution of student’s time:
Inpatient Care..................................................80%
Outpatient Care...............................................20%

Enrollment/Period: 2 maximum

Prerequisites: Junior Internal Medicine

Initial Meeting Place and Time: JCMCH, Cardiac Cath Lab at 8:00 a.m.

Goals and Objectives: The MS-4 will develop a patient database for the diagnosis and management of patients with cardiovascular disease.

Course: Outline and Mechanics: The MS-4 will do three new patient work-ups per week and present these patients during the 8:30 a.m. attending rounds. They will read EKGs, chest x-rays and participate in stress testing on their patients. They will observe cardiac catheterizations, Swan-Ganz catheterizations, interventional cardiology procedures including PTCA and EP and observe interpretations of ECHO cardiograms and thallium tests. It is anticipated that students will round on their own patients prior to morning teaching rounds with the help of cardiac fellows and residents. One half day per week of outpatient clinic. The student may observe one open heart surgery during the two-week rotation.

Method of Instruction: Bedside review of history and physical exam findings, EKG interpretation and other laboratory tests of the students patients. Interesting physical findings of all cardiology patients will be reviewed with the student. Discharge diagnoses of inpatient and consultation patients are chest pain, arrhythmias, CABG, valvular, and pericardial disease. Thirty-five percent are female patients.

Course Schedule: 1. Teaching rounds - see outline above.
2. Monday outpatient clinic in p.m.
3. Wednesday graphics conference.
4. Thursday and Friday - observe open heart surgery.
5. Friday Journal Club on alternating Fridays.

Evaluation: Completion of MS-4 evaluation form to be presented (students please furnish form on last day of rotation).
Internal Medicine

DERMATOLOGY

Course Number: DERM5001-4
JCMCH

Instructor: Stuart Leicht, M.D.

Responsible Faculty: Stuart Leicht, M.D. - (423) 439-7280

Contact: Yvette Font – (423) 439-6381

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care .................................................. 35%
- Outpatient Care .................................................. 35%
- Clinical Rounds .................................................. 20%
- Conferences/Lectures ......................................... 10%

Enrollment/Period: 2 maximum

Initial Meeting Place: Dr. Leicht's Office

Monday – Tuesday ETSU Physicians, Kingsport at 8:00 a.m.
Wednesday – Thursday ETSU Physicians, Johnson City at 8:00 a.m.

Objectives:
It is an impossibility to become conversant with the wide range of dermatologic illnesses in one brief elective. However, minimal goals will be:

1. Skills of properly describing skin lesions and familiarity with resources capable of directing you toward proper diagnosis.
2. Recognition of 25 to 30 of the most common skin diseases and their treatment.
3. Recognition of cutaneous cancers.
4. Experience with punch biopsies.

Course Outline:
Monday and Tuesday at Kingsport office of University Physicians 8:00 a.m.
Wednesday and Thursday at University Physicians, Internal Medicine. Fridays off. Tuesday afternoon will be scheduled for either office or an as needed basis.

Until further attending coverage is recruited, the elective will consist of participation in the attending’s private practice. Students will therefore participate in a real-life dermatology practice evaluating patients as they are sent by primary care physicians. The practicalities of this setting will necessarily limit the number of participants.

The students and residents will do initial evaluations and assessments of all new patients which will then be presented to the attending. They will assist in surgical procedures and gain some familiarity with cryosurgical and biopsy techniques.

The student will be expected to avail himself of the Dermatology texts kept in the resident's office. A core curriculum of particularly useful articles is provided as a minimal reading base to be supplemented by text and other journal articles. The student will be requested to look up references, while other references will be provided. It is expected that a very significant amount of reading will be done.
Internal Medicine

A wide variety of problems will be encountered including collagen vascular illnesses, oral problems, infectious diseases, pediatric disorders and even psychiatric problems.

**Format and Mechanics:**

The student is expected to see all consults and attempt to come to a differential diagnosis on his own. All cases will then be discussed. The student will learn biopsy techniques, cryotherapy, and have the opportunity to assist in minor surgery, laser therapy and cryosurgery.

**Evaluation:**

Evaluation will be based on student's participation, enthusiasm, expanded knowledge base and attainment of goals specified under objectives. This is a busy rotation clinically and academically. The students are expected to actively participate in all divisional patient care activities.
Internal Medicine

GASTROENTEROLOGY

Course Number: IMED5001-7
JCMCH

Instructors: Thomas Borthwick, M.D.

Responsible Faculty: Mark F. Young, M.D. - (423) 926-1171, Ext. 2481

Contact: Jennifer McCracken, LPN – (423) 929-7111

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care: 40%
- Outpatient Care: 14%
- Clinical Rounds: 20%
- Conferences/Lectures: 13%
- Laboratory Work: 13%

Enrollment/Period: 2 maximum

Prerequisites: Junior Medicine Clerkship

Initial Meeting Place and Time: JCMCH – Conference Room – 1st Floor at 7:30 a.m.

Goals: To develop a comprehensive understanding of Gastroenterologic and Hepatobiliary diseases as they apply to the practice of primary care medicine.

Objectives: By the end of the elective, the student will be able to carry out all medical phases of diagnosis and management without consultation in 90% of cases of common diarrheal diseases, peptic ulcer diseases, pancreatitis, hepatitis and jaundice, GI bleeding, GI tumors and biliary tract lithiasis, cirrhosis, diverticular disease. Advanced skills will be learned in rectal examination, proctoscopy and insertion of gastric tubes, with education in indications for paracentesis, sigmoidoscopy, ERCP, esophageal motility, liver biopsy, bowel biopsy, colonoscopy, gastroscopy, esophagoscopy, malabsorption studies and reading skill in GI series, cholecystography, sonography, liver scans and abdominal CT scans.

Format and Mechanics: The clinical program is located at the VA Hospital at Mountain Home and JCMCH, and covers the following areas:

1. Gastrointestinal consultation service: This covers approximately 500 general medical and surgical beds. Students will answer consultations daily. They will screen GI cases and will assist in answering emergency consultations, and later present their patients to the GI attending staff.

2. GI inpatient service: This service is within the Department of Medicine at the VA Hospital. The patients on the service are selected by and admitted through the GI service exclusively on the basis of their presenting either complex GI problems or diagnosis or treatment, or being of investigational interest to one group. The students, jointly with the medical residents and interns, will supply the medical care for these patients and will be supervised and advised by the attending staff of the section.
3. Gastroenterology clinics: These are referral clinics and will be held once weekly at the VA Hospital. Students and medical residents attend clinics and are responsible for management of GI patients jointly with the GI attending staff and fellows. Part of the clinic time will be devoted to the review of radiologic films of current cases.

4. Radiology training: In addition to the presentation and discussions of radiologic films at the GI clinics and consultations, there is a monthly GI X-ray conference where films of GI interest from both hospitals are presented.

5. Endoscopy service: Students will be instructed in the methodology of and observe the instructors perform upper GI endoscopy including ERCP, peritoneoscopy and colonoscopy. Endoscopies are performed daily, when necessary, under the supervision of attending endoscopists. Gastric and colonic polypectomies will be performed. Therapeutic biliary endoscopics are performed when indicated by attending physicians.

6. Seminars: These will be held twice per month where a physiologically oriented topic of current interest is discussed by a student, followed by a general discussion.

7. Clinical conference: These will be held biweekly attended by the entire house staff of the section and by interested attending and house staff members from other departments and visitors. Students and other house staff officers assigned to the GI section will be in charge of the presentations and discussions of the cases. Current interesting or problem cases will be discussed from the point of view of diagnosis, pathogenesis and management. In addition, students may present and discuss assigned clinical and research topics of current interest and significance. For this purpose they will use visual aids (graphs, tables, slides, etc.) which they will prepare for the conference and review the pertinent literature.

8. Journal club: Will be held weekly.

9. GI Pathology Conferences: Will be held weekly.

10. GI medical surgical conference - monthly JCMCH: Interesting case presentations and discussions.

Evaluation:

1. Students will be evaluated by direct observation of their progress during the period of the elective.

2. Faculty evaluators will use the standard form of the Department of Medicine for evaluating students.
Internal Medicine

HEMATOLOGY/ONCOLOGY

Course Number: IMED5001-8
ETSU Cancer Center and JCMCH

Instructor: Agnes Krozser-Hamati, M.D.
K. Krishnan, M.D.
Stephen J. Smith, M.D.

Responsible Faculty: Agnes Krozser-Hamati, M.D. - (423) 439-6362

Duration: 4 weeks

Periods Offered: 2, 3, 4 and 5

Distribution of student's time:
- Inpatient Care ...........................................20%
- Outpatient Care ........................................20%
- Clinical Rounds ........................................20%
- Conferences/Lectures .........................15%
- Library/Clinical Research ..........................25%

Enrollment/Period: 1 maximum

Prerequisites: Junior Medicine Clerkship

Initial Meeting Place: JCMCH – Cancer Center, 8:00 a.m., If necessary, keep fellow on call for assistance.

Goals: To develop a comprehensive understanding of the Hematology/Oncology subspecialty as it applies to the practice of primary care medicine.

Objectives: A. Concepts:
1. The student should be able to generate a differential diagnosis and list the steps necessary to determine a diagnosis when presented with the following patient problems:
   a. bleeding,
   b. lymphadenopathy,
   c. splenomegaly,
   d. abnormal CBC or differential.

2. The student should be able to diagnose, with appropriate supporting lab data, give the pathophysiology, and give the appropriate therapy of the following diseases:
   a. iron deficiency anemia,
   b. nutritional anemia (B12 and folic acid),
   c. hemolytic anemias (hemoglobinopathies, enzymopathies, immune, spherocytic),
   d. aplastic anemia,
   e. hemophilia,
   f. Hodgkin's disease and non-Hodgkins lymphoma,
   g. acute and chronic leukemias,
   h. immune thrombocytopenics,
   i. deep vein thrombosis or pulmonary embolus,
   j. disseminated intravascular coagulation,
**Internal Medicine**

k. polycythemia, 1° or 2°,
l. plasma cell dyscrasias,
m. carcinoma of the lung, breast, colon, prostate.

3. The student should understand the following:
   a. hematopoietic organ system and its kinetics,
   b. transfusion therapy,
   c. coagulation scheme and coagulation tests,
   d. anticoagulant or thrombolytic therapy,
   e. staging of neoplastic diseases,
   f. chemotherapeutic agents and toxicities.

4. The student should become aware of the psychosocial input of Hematological-Oncological diseases and their treatment on both the patient and their families.

5. The student should understand the principles of supportive care in terminal illness.

B. Skills
   1. Interpretation of peripheral blood smear and use of reticulocyte count.
   2. Beginning interpretation of bone marrow aspirate/biopsy.
   3. Counseling patients and/or families with non-curable illnesses.

**Format and Mechanics:**

1. The student will become part of the Hematology/Oncology team composed of the faculty, medical resident on subspecialty service, Oncology fellow, Oncology nurse at ETSU Cancer Center and other health care professionals.
2. The student will see hematology/oncology consultations at Johnson City Medical Center Hospital and ETSU Cancer Center, present them to the resident and faculty, and make daily rounds on these patients.
3. The student will have laboratory supervision in interpreting blood and marrow films on their patients.
4. The student will attend Tumor Board at Johnson City Medical Center Hospital.
5. Student will attend MEAC OP Clinic two half-days per week.
6. Students will attend and participate in all conferences of Hematology/Oncology division.

**Evaluation:**

Topics and skills covered under objectives will be discussed and observed during daily rounds and informally evaluated at these times. The attending(s) and resident(s) will evaluate the student’s performance at the end of the elective, using standardized evaluation forms.
Internal Medicine

HEMATOLOGY/ONCOLOGY

Course Number: IMED5001-9
VAMC

Instructors: Koyamangalath Krishnan, M.D.
Agnes Krozser-Hamati, M.D.

Responsible Faculty: Koyamangalath Krishnan, M.D. – (423) 439-6362

Contact: Sharon Shell – (423) 439-6362

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Outpatient Care..........................................................20%
- Evaluation and follow up of Hematology/Oncology consultations........................................40%
- Conference/Lectures...................................................20%
- Library/Clinical Research.............................................20%

Enrollment/Period: 1 maximum

Initial Meeting Place: Ward D1, VAMC at 8:00 a.m.

Goal: To develop a comprehensive understanding of the Hematology/Oncology subspecialty as it applies to the practice of primary care medicine.

Objectives: A. Concepts: Hematology
The student should be able:
1. To diagnose and understand the pathophysiology and principles of therapy of the following disorders:
   a. Hemopoietic stem cell disorders.
   b. Erythorcyte disorders - the anemias, Erythrocytosis, the porphyrias
   c. Disorders of iron metabolism - Hemochromatosis
   d. Disorders of the neutrophils, monocyte/macrophate system and lymphocytes - including Lymphomas, Leukemias, Plasma Cell Myeloma.
   e. Disorders of Hemostasis - bleeding and thrombosis.
2. To understand the principles of transfusion medicine and understand the indication for and complications resulting from the transfusion of blood products.
3. To recognize and understand the pathophysiology and principles of therapy of the hematologic abnormalities resulting from human immunodeficiency virus (HIV) infection.
4. To understand the principles of and indications for simple and basic laboratory tests in Hematology.
   a. Platelet function tests
   b. Screening tests for coagulation abnormalities PT, PTT, TT, Fibrinogen, Fibrin split products
   c. Screening tests to evaluate erythrocyte disorders e.g., iron studies, Folate B12 studies, hemoglobin electrophoresis, etc.
Internal Medicine

d. screening tests to evaluate plasma cell disorders (serum/urine electrophoresis).

5. To be skilled in:
   a. making, reviewing, and interpreting blood smears;
   b. the use of the reticulocyte count.

Objectives:  

B. Concepts: Oncology
The Student should be able to:
1. Diagnose, understand the pathogenesis, and principles of therapy of all solid tumors.
2. Understand the principles of chemotherapy and basic pharmacology of chemotherapeutic Faculties.
3. Understand the biology of cancer, principles of carcinogenesis, principles of preventive medicine related to Oncology.
4. Understand the fundamentals of the recent advances in
   a. immunotherapy of cancer (e.g. Use of Interleukins and LAK/TIL cells),
   b. the use of colony stimulating factors (CSFs),
   c. bone marrow transplantation
5. Recognize and understand the pathogenesis and principles of therapy of malignancies in patients with HIV infection.
6. Understand the principles of supportive care in Oncology, (e.g. management of pain).
7. Understand the principles of medical ethics and issues related to death and dying and develop humanistic qualities vital to the care of all patients in general.
8. The student should be skilled in:
   a. the use of flow sheets in the management of patients with cancer.
   b. the ability to accurately measure and record tumor size.

Format and Mechanics:
1. Students are expected to attend all conferences of the Hematology and Oncology Division.
2. The student will see Hematology/Oncology consultations and present them to senior staff attending.
3. Students will attend Hematology/Oncology clinic and will be assigned patients for evaluation and discussion with the attending.
4. Students will attend Tumor Board and will be expected to present a brief case history of their own patients if any of them are scheduled for presentation.
5. Students will be trained in interpreting blood and marrow films on their patients as well as those from representative teaching cases.
6. Students are encouraged to participate in on-going clinical trials and understand the basic principles of clinical research. Students will have access to computers (Macintosh Classic II and Personal LaserWriter).

Evaluation:
Topic and skills covered under objectives will be discussed and observed during daily rounds and informally evaluated at these times. The attending(s) and residents will evaluate the student's performance at the end of the elective, using standardized evaluation forms.
Internal Medicine

INFECTIOUS DISEASE

Course Number: IMED5001-10
VAMC

Instructors: Rezhan Hussein, M.D.
Jonathan Moorman, M.D.
James Myers, M.D.
Felix Sarubbi, M.D.
Wael Shams, M.D.

Responsible Faculty: Jonathan Moorman, M.D., Chief - (423) 439-6380

Contact: Joyce Larimer – (423) 439-6380

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Clinical Rounds</td>
<td>20%</td>
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<tr>
<td>Inpatient Care</td>
<td>20%</td>
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<tr>
<td>Conferences/Lectures</td>
<td>15%</td>
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<tr>
<td>Reading</td>
<td>15%</td>
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<tr>
<td>Laboratory Work</td>
<td>10%</td>
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<tr>
<td>Outpatient Care</td>
<td>20%</td>
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Enrollment/Period: 4 maximum

Initial Meeting Place: VAMC, Building 2, Room 102 at 8:00 a.m.

Goals: To develop a comprehensive understanding of the infectious diseases subspecialty as it applies to the practice of primary care medicine.

Objectives:

A. Concepts:

1. Diagnosis of bacterial infections such as otitis media, urethritis, pharyngitis, pneumonia, meningitis, endocarditis, osteomyelitis, urinary tract infection, and other infections such as AIDS based on patient's symptoms, physical examination and laboratory tests.
2. Treatment of bacterial and other infections based on principles of antibiotic therapy (including knowledge of spectrum of activity, pharmaco-kinetics and toxicity of commonly used antibiotics).
3. Recognition of common viral diseases based on clinical presentation and use of relevant serologic tests.
4. Diagnosis and treatment of tuberculosis.
5. Diagnosis and treatment of infectious diseases endemic to Tennessee including histoplasmosis, blastomycosis and Strongyloides stercoralis.
6. Principles of hospital infection control.

B. Skills:

1. Perform and interpret Gram-stained smears of sputum, and other body fluids.
3. Analyze stool sample for presence of white blood cells, ova and parasites.
4. Identify Beta hemolytic streptococci on blood agar.
Format and Mechanics:

1. Students will become part of the Infectious Diseases Consult Service at the VA Hospital and at Johnson City Medical Center Hospital. They will see patients referred for a broad spectrum of Infectious Diseases problems. Students will obtain histories and do complete physical examinations, which will be reviewed by the Infectious Diseases attending. Pertinent diagnostic testing in the Microbiology laboratory (smears, cultures, etc.). Culture plate reading is guided by the ID Attending.

2. Students are encouraged to participate in the preparation of patient specimens (gram stains, etc). Culture plate reading is guided by the ID Attending.

3. The Infectious Diseases attending makes rounds on patients on the consult service along with fellow, student and resident.

4. Radiology rounds are conducted on a regular basis.

5. Infectious Diseases Specialty conference will be held once per week at which time the student or resident will present an interesting case.

6. Students are expected to join Fellows and Attending Staff in the Infectious Diseases clinics at the VA Hospital and the ETSU Physicians & Associates office.

7. Evaluation will be based on the performance of the student in evaluating and following patients.

Evaluation:

Topic and skill covered under objectives will be discussed and observed during rounds and informally evaluated at these times. The attending(s) and resident(s) will evaluate the student's performance at the end of the elective, using standardized evaluation forms.

Course Schedule: See Dr. Moorman.
**Internal Medicine**

**NEPHROLOGY**

**Course Number:** IMED5001-13  
JCMCH

**Instructors:** Leslie W. Panus, M.D.  
Stanley E. Vermillion, M.D.  
Cliff Wiegand, M.D.

**Responsible Faculty:** Leslie W. Panus, M.D. - (423) 929-7158

**Contact:** Mark Strickler – 929-7158

**Location:** East Tennessee Medical Associates, P.C.  
107 Woodlawn Drive  
Johnson City, TN 37604

**Duration:** 4 weeks

**Periods Offered:** All

**Distribution of student's time:**
- Inpatient Care .............................................70%
- Outpatient Care ...........................................5%
- Clinical Rounds ...............................................15%
- Conferences/Lectures .....................................5%
- Laboratory Work ............................................5%

**Enrollment/Period:** 2 maximum

**Prerequisites:** Senior Medical Student

**Initial Meeting Place and Time:** JCMCH - Dialysis Unit 5th Floor, 8:00 a.m.

**Goals:** To have a working knowledge of evaluation, diagnosis, therapy of renal and hypertensive patients.

**Objectives:**
1. To evaluate renal patients and renal consults for the Nephrology service under the direction of a Nephrologist.
2. To be able to thoroughly evaluate and treat moderate to severe hypertensive patients.
3. The MS-IV should be comfortable by the end of the rotation in the evaluation and treatment of:
   - Fluid and electrolyte abnormalities,
   - Clinical assessment of patients with renal disease, Acute renal failure,
   - Primary glomerular disease,
   - Interstitial renal disease, pregnant female,
   - Cystic Disease of the kidneys,
   - Diabetic nephropathy, Stone Disease, Obstructive and toxic nephropathies.
Internal Medicine

Format and Mechanics: The MS-IV will be assigned new patients to evaluate and work up weekly. He/she will probably average two to three new patients per week. The MS-IV will obtain history, physical, make a diagnosis based on their clinical evaluation, write diagnostic and therapeutic plans. They will be able to evaluate and manage the uremic patient, the serious hypertensive patient under the direction of the staff Nephrologist.

Evaluation: Standard evaluation form.

Course Schedule: 4 - 6 week rotation
Course Number: NEUR5002-14
JCMCH OR VA

Instructors: John Dengler, M.D.  Stephen Kimbrough, M.D.
Keith Devos, M.D.  Craig Lapham, M.D.
Annette Huang, M.D.  Dean Wilson, M.D.

Responsible Faculty: Stephen Kimbrough, M.D.
Dean Wilson, M.D.

Contact: Sharie Dengler - (423) 928-6174
Tri-State Mountain Neurology Associates
105 Woodlawn Dr.
Johnson City, TN 37604

Duration: 2 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care ...........................................50%
Outpatient Care .........................................................10%
Clinical Rounds .........................................................20%
Conferences/Lectures .............................................20%

Enrollment/Period: 3 maximum

Prerequisites: Senior Medical Student

Initial Meeting Place: Radiology, JCMCH - 7:00 a.m.; Neuro Office, VAMC 7:00 a.m.

Goals and Objectives: 1. Learn neurological examination,
2. Get exposure to different neurological problems and procedures,
3. Learn to take neurological history.

Format and Mechanics: 1. Hospital rounds,
2. Observe EMG, nerve conduction studies, EEG, BAERS, VERS procedures,
3. Perform lumbar punctures,
4. See hospital consultations and admissions - do work-up and discuss with appropriate neurologic consultant,
5. Spend some time seeing office practice neurology,
6. Participate in neurology conferences.

Evaluation: Evaluation will be dependent on history, physical exam, and care of patients examined in the hospital.

Course Schedule: Everyday rounds at 7:00 a.m.; Weekends will be worked out.
Course Number: IMED5001-17
JCMCH

Instructor: Rebecca Copeland, M.D.  Steve Loyd, M.D.
Bhuvana Guha, M.D.  Ken Olive, M.D.
Reena Kuriacose, M.D.  Roger Smalligan, M.D.

Responsible Faculty: Roger Smalligan, M.D. - (423) 439-7280

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Outpatient Care........................................85%
- Conferences/Lectures.................................5%
- Independent Study.....................................10%

Enrollment/Period: 1 maximum

Prerequisites: Junior Medicine

Initial Meeting Place and Time: Clinical Education Building, 2nd Floor, 8:30 a.m.

Goals and Objectives: Ambulatory medicine requires different skills from hospital medicine. This elective will introduce the senior medical student to the out-patient practice of primary care internal medicine.

Course Outline: The student will:
1. provide care, under supervision, for adult patients seen in the ETSU Physicians and Associates Internal Medicine practice office in Johnson City. This will include a focused history and physical examination, selection of laboratory tests, selection of therapy, and decisions on the timing of follow up visits and hospitalization. The student will have the initial contact with the patient, and will be expected to formulate and present diagnostic and management plans to the supervising faculty.
2. complete a series of readings in the field of general internal medicine, with emphasis on the periodic health examination for the healthy adult, the physician patient relationship and on using the medical literature to solve clinical problems.
3. interested students may prepare a paper based on literature research done during this elective.

Format and Mechanics: Details scheduled by arrangement, depending on interest, but will include most of the following activities:
1. attendance in the outpatient clinic
2. tutorial sessions with faculty
3. library research
Internal Medicine

Method of Instruction: Patient centered instruction by faculty, assigned readings, daily tutorial with faculty. Interested students can learn some aspects of medical computing, including literature retrieval with a personal computer.

Evaluation: Standard form.
Internal Medicine

PULMONARY MEDICINE

Course Number: IMED5001-19
VAMC

Instructor: Ryland Byrd, M.D.
Thomas Roy, M.D.

Responsible Faculty: Thomas Roy, M.D. - (423) 926-1171, Ext. 2447

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care ..................................................20%
- Outpatient Care ..............................................10%
- Clinical Rounds ..............................................45%
- Conferences/Lectures .......................................15%
- Laboratory Work .............................................10%

Enrollment/Period: 2 maximum

Prerequisites: Junior Medicine Clerkship

Initial Meeting
Place and Time: VAMC – Building 200, Basement, 8:00 a.m., Pulmonary Lab

Goal: To develop a comprehensive understanding of Pulmonary Medicine as it applies to the practice of Primary Care Medicine.

Objectives:
1. Diagnosis and management of various pulmonary disorders including: COPD, asthma, TB, aspiration pneumonitis, lung masses, atelectasis, pleural effusions, vasculitides, interstitial lung disease, pulmonary emboli, etc.
2. Learn basic pulmonary lab procedures - performance and interpretation of PFT's and ABG's.
3. Observe pulmonary diagnostic procedures such as intubation, fiberoptic bronchoscopy, thoracentesis and pleural biopsy, transthoracic needle aspiration, transbronchial biopsy including Wang needle biopsies.
4. Improve skills at CXR interpretation.

Format and Mechanics:
1. The student is assigned to the consultation service under supervision of pulmonary fellow and attending.
2. The student functions as a pulmonary consult, obtaining histories and physicals on assigned patients, gathering data, performing or observing procedures, and determining, in written form, a diagnostic, therapeutic and patient education plan. Student will be expected to read about his particular patient’s problem and be able to discuss appropriate evaluation and therapy.
3. The student will attend at least one pulmonary clinic a week.
4. The student will actively participate in pulmonary conference, presenting any of his patients if they are to be discussed.
5. When time permits, the student will attend the daily round and teaching schedule outlined under General Internal Medicine, emphasizing in his learning process pulmonary aspects of disease.

6. The student will attend all consultation rounds and observe all bronchoscopies and thoracentesis.

7. The student is expected to pick one topic of interest and present a short discussion at the end of the rotation.

8. In addition, the student will be encouraged to read from Roger Bone’s *Pulmonary and Critical Care Medicine* or pulmonary portion of Harrison’s *Principle of Internal Medicine*.

**Course Schedule:**
See VA General Internal Medicine.

**Evaluation:**
Topic and skills covered under objectives will be discussed and observed during daily rounds and informally evaluated at these times. The attending(s) from Pulmonary Associates of East Tennessee will evaluate the student's performance at the end of the elective, using standardized evaluation forms.
Internal Medicine

CLINICAL ROTATION IN REHABILITATION MEDICINE

Course Number: IMED5001-20
JCMCH

Instructors: Robert Sorro, M.D.
Michael Spady, M.D.

Responsible Faculty: Michael Spady, M.D. - (423) 952-3050

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
Inpatient Care ........................................70%
Outpatient Care ......................................10%
Clinical Rounds ......................................20%

Enrollment/Period: 2 maximum

Prerequisites: Junior Medicine Clerkship

Initial Meeting Place: Medical Directors, Quillen Rehabilitation Center, JCMCH at 8:00 a.m.

Objectives: The objective of this rotation is for the student to become familiar with the techniques/practices in Rehabilitation Medicine. It is to provide an introduction concerning the basic scope and responsibilities of a Physiatrist (Rehabilitation Physician). In addition, it is to provide a basic introduction to the concept of “team treatment” and have an emphasis on the functional capacity of a patient rather than their medical status.

Course Outline: The student is to participate in rounds with the physiatrist, along with team conferences, and to have close interaction with the therapists. Participation in the teaching/educational activities of the department is anticipated. The student is to observe/participate in treatment planning/modalities in conjunction with the physician and the other member of the rehabilitation team.

Format and Mechanics: This is to occur at the James H. and Cecile C. Quillen Rehabilitation Hospital located at 2511 Wesley Street, Johnson City, TN and at the Johnson City Medical Center.

Method of Instruction: Methods of instruction will mainly be on a one-to-one basis, with occasional lectures given by various members of the rehabilitation team. In addition, assigned reading will be performed, which will aid in the evaluation of the student.

Course Schedule: This will be on a flexible basis, and will include the teaching activities of the Department of Rehabilitation Services.

Evaluation: The evaluation of the student is to occur on written tests given at the end of the rotation, in addition to personal observation by the instructors in a clinical setting.
Microbiology

CLINICAL MICROBIOLOGY

Course Number: MCRO5001-1
JHQCOM

Instructor: Departmental Faculty

Responsible Faculty: Donald A. Ferguson, Jr., Ph.D. - (423) 439-6242

Duration: 2 week periods depending upon needs and requests

Periods Offered: All

Distribution of student's time:
- Discussions ........................................25%
- Laboratory Work ..................................75%

Enrollment/Period: 2 maximum

Prerequisites: Medical Microbiology (620-2000) and permission of instructor.

Initial Meeting Place: 9:00 a.m., Room 3-18, Building 119, VAMC

Objectives: The objective of this elective will be to provide senior medical students with the opportunity to observe and conduct modern diagnostic procedures. Efforts will be directed toward the need to combine basic knowledge, preliminary clinical findings (e.g. Chemistry) and symptomatology in the determination of specific diagnostic tests to be ordered by the physician. Emphasis will focus upon utilization of "scientific method" as the rational approach to obtain rapid and accurate diagnoses of microbial infections. The intent is also to provide an understanding of the methodology required for specific diagnostic tests and to instill an appreciation for the amount of laboratory time required to obtain reliable results.

Methods: The objectives of the course will be accomplished through discussions and actual laboratory participation. Correlation of patient symptoms and laboratory findings will be stressed. The need to obtain specific diagnoses will be emphasized. Laboratory exercises will include (i) selection of appropriate specimens to be collected, (ii) examination of appropriate specimens (i.e. wound exudates, sputa, genital secretions, etc.) by Gram stain as a diagnostic aid, (iii) specific identification of bacterial pathogens associated with disease from different body sites, and (iv) determination of sensitivity to antibiotics. Grading will be based upon participation in laboratory exercises and discussions and the successful isolation and identification of pathogenic bacteria from three simulated clinical samples of the students choosing in the second week of the course.
Obstetrics/Gynecology

BASIC RESEARCH IN REPRODUCTIVE BIOLOGY

Course Number: OBGY5001-3
JCMCH

Instructors: Kevin Breuel, Ph.D.

Responsible Faculty: Kevin Breuel, Ph.D. - (423) 439-6773

Duration: 4 - 8 weeks

Periods Offered: ALL

Distribution of student's time: Conferences/Lectures ..................................................10%
Laboratory Work .................................................................90%

Enrollment: 2 maximum

Prerequisites: Permission of Instructor

Initial Meeting Place and Time: Department of Ob/Gyn, VA Bldg 1

Description: This elective is designed for the student interested in enhancing his/her understanding of the basic science of human reproduction. The student will receive an introduction to basic research techniques. The student will gain experience in designing an experimental protocol, conducting experiments, statistical analyses of data, and learn how to prepare a scientific manuscript. It is anticipated that the student will present the data at the student research forum and serve as author/co-author on abstracts and manuscripts submitted for publication.

Objectives:
1. Introduction to the scientific method.
2. Design an experimental protocol.
3. Collect and statistically analyze experimental data.
4. Summarize and present experimental data at student research forum.
5. Preparation of scientific abstract and manuscript.

Evaluation: Evaluation will be based on daily performance and overall accomplishment of the outlined objectives.
Obstetrics/Gynecology

MATERNAL-FETAL MEDICINE

Course Number: OBGY5001-4
JCMCH

Instructor: Jessica DeMay, M.D.
Uchenna Nwosu, M.D.
Bruce Selman, M.D.

Responsible Faculty: Bruce Selman, M.D.

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Out-Patient Management........................................55%
- Case discussion/Conferences...............................10%
- In-Patient Management.......................................20%
- Literature Searches and Writings........................15%

Enrollment/Period: 1 maximum

Prerequisites: Successful completion of 3rd year clinical rotation in Ob/Gyn and permission of the instructor.

Supplies Needed: None

Objectives:
1. Introduce the senior medical student to basic Obstetrical Ultrasonography and the role of Ultrasonography in antenatal Diagnosis.
2. Involve the student in the decision making process in the management of complications of pregnancy.

Description:
The student will attend morning rounds at 8:00 a.m., Monday, Tuesday, Thursday, and Friday and will participate in all facets of patient care. He/She will carry out Medline searches for classic and contemporary publications on a given topic, as well as present his/her assessment based on these searches. For students taking the course for four weeks or more, a case report possibly leading to a journal publication will be encouraged.

Evaluation:
Student grades will be based on assimilation of assigned material and patient care experiences, preparation of concise patient history and physical examinations and demonstration of management plan development skills. Preparation of a topic review or research project will also be mandatory.
Obstetrics/Gynecology

REPRODUCTIVE ENDOCRINOLOGY

Course Number: OBGY5001-6

Instructor: Norman Assad, M.D.

Responsible Faculty: Norman Assad, M.D. – (423) 439-6335

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care/Surgery.........................45%
- Outpatient Clinic........................................45%
- Clinical Rounds.........................................5%
- Conferences/Lectures....................................5%

Enrollment/Period: 1 maximum

Prerequisites: Third Year OB/GYN Rotation

Initial Meeting
Place & Time: Obstetrics and Gynecology, Clinical Education Building, 1st Floor at 8:30 a.m. first day of rotation.

Objectives:
1. Increase understanding of reproductive endocrinology.
2. Increase understanding of conservative surgical management in reproductive age women.
3. Increase understanding of the work-up and treatment for the infertile couple.
4. Improve skills of the management of pharmacologic agents in the care of infertile couple.

Course Outline:
This elective is designed to introduce the students to the subspecialty of Reproductive Endocrinology and teach them to apply the pathology to the clinical management of the patient.

Mechanics:
Conference with the director once a week to be scheduled. Clinical rounds on patients with instructions by the director daily or as the student schedule allows. Conferences by the director of the course on reproductive endocrinology patients undergoing infertility treatment. Scrub with the director of the course on patients under the physician’s care.

Methods of Instruction:
Didactic including slides and movies; clinical, which would include bedside teaching and out-patient clinics with an ambulatory setting; seminars both hospital and departmental scheduled and those arranged by the director; laboratory work including that in the pathology and cytology laboratories; and any combination of these.

Evaluation:
Evaluation of the student’s performance will be on the basis of clinical performance in both the out-patient and in-patient settings.
Obstetrics/Gynecology

OBSTETRICS/GYNECOLOGY AMBULATORY CARE

Course Number: OBGY5001-7

Instructor: Jessica DeMay, M.D. Uchenna Nwosu, M.D.
Ann Gebka, M.D. Martin Olsen, M.D.
Frederick Jelovsek, M.D. Bruce Selman, M.D.

Responsible Faculty: Bruce Selman, M.D. – (423) 439-6335

Duration: 4 weeks

Periods Offered: All

Distribution of student’s time: Outpatient Clinic…………………………100%
Conferences/Lectures…………………………..<1%

Enrollment/Period: 1 maximum

Prerequisites: Junior Obstetrics-Gynecology

Initial Meeting Place & Time: Obstetrics and Gynecology, Clinical Education Building, 1st Floor at 8:30 a.m. first day of rotation.

Objectives: 1. To gain additional experience over the third year clerkship in ambulatory obstetric clinic.
2. To gain experience with outpatient management of obstetric complications.
3. To develop skills not emphasized by inpatient experience, including:
   a. limited, focused history and physical exam
   b. uncomplicated antenatal course
   c. consultation and referral processes in a timely outpatient setting for complications noted in pregnancy.

Course Outline: This elective is designed to introduce the students to the sub-specialty of Ambulatory Care and teach them to apply the pathology to the clinical management of the patient.

Methods of Instruction: Didactic including slides and movies; clinical which would include bedside teaching and out-patient clinics with an ambulatory setting; seminars both hospital and departmental scheduled and those arranged by the director; laboratory work including that in the pathology and cytology laboratories; and any combination of these.

Course Schedule: OB/GYN Grand Rounds
Subintern will participate in Obstetric Clinics:
Monday 8:30 – 12:30 p.m. Low Risk OB
Tuesday 8:30 – 12:30 p.m. High Risk OB
Wednesday 1:00 – 5:00 p.m.
Thursday 8:30 – 12:30 p.m.
Friday 8:30 – 12:30 p.m.
**Obstetrics/Gynecology**

**Evaluation:** Evaluation of the student’s performance will be on the basis of clinical performance in both the out-patient and in-patient settings.

**Number of Contact Hours:** Approximately 30 – 40 hours weekly
Pathology

FORENSIC PATHOLOGY

Course Number: PATH5001-1
JHQCOM

Instructor: Teresa A. Campbell, M.D.
Forensic Pathologist

Responsible Faculty: Teresa A. Campbell, M.D. - (423) 439-8038

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
Conferences/Lectures........................................25%
Laboratory Work.............................................75%

Enrollment/Period: 1 maximum

Prerequisites: Permission of the instructor and the Pathology Department Chair

Initial Meeting Place & Time: Room B-26, Building 1, VA, 8 a.m.

Objectives:
1. To provide the student with the opportunity to apply basic medical knowledge to the evaluation of medicolegal consultations, investigations, and postmortem examinations.
2. To instruct the student in the special requirements of the medicolegal autopsy including determination of the cause, manner, and time of death; the identification of the deceased; the recovery of evidence; and the classification and documentation of injuries for correlation with the circumstances of death.
3. To provide the student an understanding of the Tennessee medical examiner system and its relationship to other agencies responsible for investigations of medicolegal cases.

Course Outline: This elective course is designed to provide fourth-year medical students with the basic concepts of forensic pathology and an understanding of the role of this special field in medicolegal investigations. The student is expected to assist the forensic pathologist during on-the-scene investigations, consultations and medicolegal autopsies and to be available for night and weekend call. The student will discuss assigned readings, case reviews, and teaching exercises with the forensic pathologist. The student will become familiar with the history of forensic medicine and the literature of the forensic sciences, as well as the evidentiary requirements and special procedures necessary for evaluation and documentation of medicolegal cases.

Mechanics: The student will accompany and assist the forensic pathologist in his daily duties.
Pathology

Methods of Instruction:
1. Practical experience and instruction during performance of medicolegal consultations, investigations, and postmortem examinations by the forensic pathologist.
2. Review of well-documented teaching cases and teaching exercises.
3. Informal lectures, with discussion of basic concepts in forensic pathology.
4. Assigned readings in the literature of the forensic sciences.
5. Outlines of selected topics and procedures.

Course Schedule: Monday through Friday, 8 a.m. to 4:30 p.m., as well as availability for night and weekend call based upon mutual agreement between instructor and student.

Evaluation: Oral, written and practical examinations, as well as demonstration of satisfactory performance by the student during the course.
Pathology

PATHOLOGY

Course Number: PATH5001-2
JCMCH

Instructor: Sandra Brooks, M.D. and Staff

Responsible Faculty: Sandra Brooks, M.D. - (423) 431-6389

Duration: 2 or 4 weeks
A four-week rotation split equally between the VAMC and JCMC is offered

Periods Offered: All by arrangement with instructor.

Distribution of student's time: Conferences/Lectures .........................25%
Laboratory Work .............................75%

Enrollment/Period: 1 maximum

Prerequisites: Permission the Pathology Department Chair and instructor

Objectives: 1. To instruct students in the efficient use of the laboratory diagnosis.
2. To increase students’ understanding of the pathogenesis of common human diseases.
3. To give the student a better understanding of the practice of pathology.

Course Outline: The student will have a variety of clinical experiences in the various sections of the laboratory. The exact experience will be determined on an individual basis taking into consideration the career goals of the student, but will usually consist predominantly of surgical pathology. Experiences in autopsy and cytopathology may also be provided.

Mechanics: The student will have “hands-on” experience in the laboratory and receive instruction in technique and theory by the technical staff and attending pathologists.

Evaluation: Evaluation will be accomplished using standard forms after daily observation of work by the preceptor.
Pathology

Course Number: PATH5001-3
VAMC

Instructor: Mousa Al-Aabbadi M.D. and Staff

Responsible Faculty: Mousa Al-Aabbadi M.D. - (423) 926-1171, Ext. 7878

Duration: 2 or 4 weeks
A four-week rotation split equally between the VAMC and JCMC is offered

Periods Offered: All

Distribution of student's time:
Conferences/Lectures .........................25%
Laboratory Work ..............................75%

Enrollment/Period: 2 maximum

Prerequisites: Permission of the Pathology Department Chair and instructor

(See description Pathology - JCMCH)
Pathology

PATHOLOGY RESEARCH

Course Number: PATH5001-4
JHQCOM

Instructors: John B. Schweitzer, M.D. and Staff

Responsible Faculty: John B. Schweitzer, M.D. - (423) 439-6210

Duration: 8-16 weeks

Periods Offered: All

Distribution of student's time:
- Conferences/Lectures: 10%
- Laboratory Work: 90%

Enrollment/Period: 1 maximum

Prerequisite: Permission of the Pathology Department Chair and the principal investigator

Objectives: To allow the student to perform and experience original biological research.

Outline: The student will work on one of the ongoing research programs in the department under the supervision of the principal investigator.

Mechanics: Laboratory Research

Methods of Instruction: Elective

Course Schedule: 8:30 a.m. - 5:00 a.m.

Evaluation: Subjective by the preceptor
Pathology

FINE NEEDLE ASPIRATION BIOPSY

Course Number: PATH5001-5

Instructors: Susan D. Rollins, M.D.
Janet F. Stastny, DO

Responsible Faculty: Susan D. Rollins, M.D. - (423) 283-4734

Duration: 2 weeks

Periods Offered: All

Distribution of student's time: Patient care and microscope time.....................100%

Enrollment/Period: 1 maximum

Prerequisite: Permission of the physicians at the Outpatient Cytopathology Center and the Pathology Department Chair

Initial Meeting Place & Time: Outpatient Cytopathology Center
2400 Susannah Street, Suite A, Johnson City, TN 8:30 a.m.

Objectives:
1. To provide the student with an opportunity to apply basic medical knowledge in the workup of patients presenting with mass lesions with respect to the application of fine needle aspiration biopsy.
2. Give the student hands-on experience in physical examination of mass lesions appropriate for aspiration biopsy, training in FNA smear-making techniques, basic ultrasound instruction, microscope time with the faculty during sign-out of fine needle aspiration biopsies, opportunity to review an extensive FNA collection of teaching cases from most body sites, sign-out of tissue biopsies and basic histology and cytology laboratory procedures.
3. This rotation will provide the student with an in-depth knowledge of the fine needle aspiration biopsy procedure, including technical and diagnostic.

Mechanics: The student will accompany and assist the physicians at the Outpatient Cytopathology Center in their daily duties.
Pediatrics

CLINICAL GENETICS

Course Number: PEDS5001-1
JCMCH

Instructors: William Allen, M.D.
Jack Rary, Ph.D

Responsible Faculty: Jack Rary, Ph.D - (423) 439-8541

Duration: 2 weeks

Periods Offered: All

Distribution of student's time: Clinic & Hospital Consultation..........................65%
Self-directed Learning........................................25%
Conferences/Lectures.....................................10%

Enrollment/Period: 1 maximum

Prerequisites: Permission of instructor

Location: 325 State of Franklin Road

Objectives: 1. Learn to do a genetic medical history on families referred for genetic evaluation.
2. Learn to do a genetic medical history on prenatal patients at risk for having a child with a congenital abnormality.
3. Learn to do a comprehensive physical exam on an individual suspected to have a genetic problem.
4. Be able to formulate an approach to a child with multiple congenital abnormalities.
5. Be able to utilize resources to construct an outline of information that can be presented to a family so that they can make an informed decision about genetic testing.
6. Understand what non-directive genetic counseling is and gain an understanding of when personal biases come through to the patient.
7. Identify a variety of community resources available to help families with genetic diseases.
8. Learn to construct a pedigree.
9. Understand how to utilize different prenatal diagnostic techniques for at risk patients.
10. Learn to interpret genetic lab tests.

Course Outline: 1. The student will be involved with the Genetic Center staff seeing patients with the medical geneticist and obtaining genetic histories from all families.
2. The student will draw pedigrees for all consultation families.
Pediatrics

3. The student will visit Greene Valley Developmental Center and participate in the evaluations of adults with mental retardation.

4. Self-directed learning will include article files that the student will be expected to review and be able to discuss informally with the medical geneticist. The student will also choose a topic of interest to the student to research and present to the medical genetics staff. The student may also be asked to research special topics that come up during clinical practice.

5. The student will attend High Risk OB clinic and will participate in the evaluation and counseling of prenatal patients with the medical geneticist.

6. The student will attend a weekly Perinatal/Neonatal meeting and weekly Pediatric Grand Rounds.

Methods of Instruction:

The student will observe the instructor collecting the genetics history from several patients and then will be expected to perform this on all subsequent consults. The student will participate in the physical exam of infant, children, and adults referred for evaluation under the direct supervision of the instructor. The student will observe lab techniques and will participate in the completion of chromosomal analysis on a blood specimen. The student will use written materials to learn how to do a standard pedigree and will learn by observing the instructor. The student will write the hospital consult notes. The student will participate in informal discussions on selected genetic topics after having read article files on each topic. The student will observe amniocentesis. The student will evaluate laboratory test results and will learn how to interpret them.

Mechanics:

1. Minimum rotation is two weeks.

2. The usual work hours are 8:30-4:30pm; however, the student will be expected to complete the work of the day even if before or after those hours.

3. Consultations take place at ETSU Physicians & Associates - Pediatrics or OB/GYN offices. Hospital consultations are at JCMCH. We will make one visit to Greene Valley Developmental Center. Reading materials and computer programs are available at the Medical Genetic Center at 325 State of Franklin Rd. and the Medical Library.

Evaluation:

The student will be evaluated by Dr. Rary on the student’s performance on the clinical aspects of the course.
**Course Number:** PEDS5001-2  
**Instructor:** H. Patrick Stern, MD  
**Responsible Faculty:** H. Patrick Stern, MD  
**Duration:** 4 weeks  
**Periods Offered:** All (Subject to availability)  
**Distribution of student's time:**  
- Inpatient Care: 1%  
- Outpatient Care: 49%  
- Community Rotations: 35%  
- Conferences/Lectures: 15%  
**Enrollment/Period:** 1 maximum  
**Prerequisites:** Senior Medical Student  
**Initial Meeting Place and Time:** Coordinate with Dr. Stern for first day of elective (439-6222 or 283-3060)  
**Objectives:**  
1. Learn to do a basic medical history on a child with developmental behavioral problems.  
2. Learn to do a comprehensive physical on a child with developmental behavioral problems.  
3. Be able to identify the primary problems uncovered by a medical evaluation and appropriate plans for addressing each.  
4. Identify the unique roles of psychologist, social worker, and pediatrician in assessing a school problem.  
5. Observe the testing of the psychologist, speech pathologist and audiologist in assessing children with developmental problems.  
6. Observe referred students in their own classroom settings when possible.  
7. Observe the psychoeducational assessment of children of school age.  
8. Identify a variety of community resources available to serve the needs of the child with developmental problems.  
9. Learn the role of the pediatrician in the collaborative effort to address the medical/educational/social development of the child in the context of family and community.  
**Course Outline:**  
1. The student will be involved in the Developmental/Behavioral Clinic seeing patients with the pediatrician and participating in team, parent, and school conferences.  
2. The student will visit a variety of community resources for meeting the educational needs of children including schools, special classes, the Child Study Center, the Tennessee Early Intervention System, etc. to see resources first hand.  
3. Self-directed learning will include readings.
The student will accompany the instructor on inpatient rounds on any hospitalized patient from the Developmental/Behavioral Section or any consultation requests.

**Mechanics:**
1. Rotation is 4 weeks.
2. The usual hours are 8:00-5:30; however, the student will be expected to complete the work of the day even if before or after those hours.
3. Patient care takes place at Community Care Wellness Center and the Boones Creek Elementary School. Community resources are scattered throughout the entire referral area. A syllabus will be provided. Self-directed learning materials will be available in the Division offices and Medical Library. Inpatient rounds will be at Johnson City Medical Center Hospital.

**Methods of Instruction:**
Patient medical care will be demonstrated then supervised by the instructor with the student doing those portions he or she is ready to perform. Observations of other roles will allow the student to gain familiarity with, and gather critical data for the assessment. Each of the team processes will be discussed with the student and participation in conferences will be encouraged. The student will be responsible for self-directed reading and learning.

**Course Schedule:**
Class schedule will be devised for each student outlining use of each half day. The schedule will include the following: half days in medical assessment of children with developmental problems, patient follow-up, time in team activities, half days in observing community resources pertinent to children with developmental problems and observing testing, and time in self-directed activities.

**Evaluation:**
Evaluation will consist of several components:
1. Each team member may evaluate the student on the basis of a structured objective evaluation format similar to that utilized in the junior clerkship.
2. The instructor will assess progress and evidence of learning in an on going basis.
3. No written exam will be given.

**Award:**
Senior students who complete a 4-week elective and perform a community project with children are eligible to receive the Katheleen M. Stern Award for Excellence in Developmental/Behavioral Pediatrics at graduation, which includes a $500 grant. Further information is available from the Dean’s Office or Dr. Stern.
Pediatrics

GENERAL INPATIENT PEDIATRICS

Course Number: PEDS5001-3
JCMCH

Instructors: Melinda Lucas, M.D.
Gayatri Balasubrahmanyanam, M.D.
Todd Aiken, M.D.
Karen Schetzina, M.D.
Faculty of Department of Pediatrics

Responsible Faculty: Melinda Lucas, M.D. - (423) 439-6228

Duration: 4 Weeks

Periods Offered: All

Enrollment: 1 maximum

Prerequisites: Completion of Third Year Curriculum
Permission of Instructor

Initial Meeting Place: JCMCH 4500, 8:30 a.m., 4th Floor

Objectives: The student will acquire advanced skills in evaluation, diagnosis, and establishment of treatment plans for hospitalized pediatric patients at Johnson City Medical Center Hospital as a senior extern.

Course Outline: The student will make daily ward rounds with residents and the attending pediatrician. He/She will be on call in the hospital every fourth night during the rotation. He/She will initiate the physical examination, dictating the history and physical, and writing the admission under the supervision of the attending physician and/or resident assigned to the pediatric service. He/She will be responsible for assessing all laboratory reports, x-rays, etc. and writing appropriate progress notes as frequently as necessary for good discharge summaries on his patients, again under the supervision of the resident or attending pediatrician. The student may also participate in the Emergency Room care of pediatric patients of faculty members of the Department of Pediatrics as time permits.

Mechanics: Instruction will be one-on-one bedside rounds and conferences, with backup instruction available through residents (year 1-3) and faculty attendings. The student will also participate in Wednesday afternoon didactic lectures, pediatric journal club, grand rounds, resident weekly conferences, and morning report.

Course Schedule: Daily hospital rounds and work rounds starting at 7 a.m. Availability in house or by beeper during daytime hours until checkout rounds at 5 p.m.; in house call every fourth night.

Evaluation: Evaluation will be by the teaching/attending preceptors, ward residents, and attending physicians of assigned patients using the standard Department of Pediatrics student evaluation form. No written examinations are required.
Course Number: PEDS5001-4
JCMCH

Instructors: Des Bharti, M.D.
Bedford Bonta, M.D.
W. Michael DeVoe, M.D.
Darsman Shah, M.D.

Responsible Faculty: W. Michael DeVoe, M.D. - (423) 431-5358 or 439-6222

Duration: 4 weeks

Periods Offered: All

Distribution of student’s time:
- Inpatient Care..............................................45%
- Outpatient Care...........................................10%
- Clinical Rounds...........................................20%
- Conferences/Lectures.................................20%
- Laboratory Work...........................................5%

Enrollment/Period: 1 maximum

Prerequisites: Completion of third year curriculum

Objectives:
1. The student will enhance his skills in the physical examination of the normal and the acutely ill neonate.
2. The student will become proficient in routine evaluation and management of the normal neonate, including instruction of parents in the general principles of normal newborn care.
3. The student will acquire skill in performance of resuscitation, small vein venipuncture, lumbar puncture and umbilical vessel catheterization of the neonate working under the direct supervision of the neonatology faculty.
4. The student will know the common principles of therapy for major acute problems of the sick neonate, particularly prematurity, respiratory distress syndrome, hypoglycemia, sepsis, hyperbilirubinemia and anemia.

Course Outline:
1. The student will spend 4 weeks in the Neonatology elective clerkship. The schedule of assignments includes daily patient care with the attending neonatologist at Johnson City Medical Center Hospital. The student will be expected to be available at all hours for participation in the emergency care of the acutely ill neonate.
2. Regularly scheduled seminar discussion sessions with the neonatology faculty will be conducted at least twice weekly to review core curriculum topics including resuscitation of the neonate, management of prematurity, management of respiratory failure, erythroblastosis fetalis, congenital heart disease, hypoglycemia, multiple major congenital anomalies, systemic viral infections of the neonate, neonatal sepsis in meningitis and neonatal seizure disorders.
Format and Mechanics:
1. The student clerkship is elective at the request of the student.
2. No more than two students will be accepted under the Neonatology clerkship at any one time.
3. All clerkship activities will be conducted at the Neonatal Intensive Care Unit at Johnson City Medical Center Hospital.

Methods of Instruction:
The major teaching method utilized will be that of the elective model with the student under the preceptorship of the neonatology faculty of the College of Medicine. Teaching activities will take place as noted above in the discussion of core curriculum seminars. All students will be expected to carry out assigned required reading and review of assigned audio-visual self-study materials.

Course Schedule:
Any four week rotation compatible with the overall senior electives program will be acceptable.

Faculty:
W. Michael DeVoe, M.D., Associate Professor of Pediatrics and Des Bharti, M.D., Assistant Professor of Pediatrics, are the major faculty members involved in the supervision of the Neonatology clerkship.

Evaluation:
1. Student performance in the clerkship will be evaluated by the utilization of a structured subjective evaluation format similar to that used in the junior pediatric clerkship.
2. The final clerkship grade will be 100% subjective evaluation.
Pediatrics

PEDIATRIC CARDIOLOGY

Course Number: PEDS5001-5
JCMCH

Instructors: Rajani Anand, M.D.

Responsible Faculty: Rajani Anand, M.D. - (423) 439-6228

Duration: 2 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care………………………………………..30%
Outpatient Care…………………………………………………….50%
Conferences/Lectures……………………………………….20%

Enrollment/Period: 1 maximum

Prerequisites: Junior/ Senior medical student

Initial Meeting Place: 8:30 a.m., ETSU Physicians & Associates – Pediatric Clinic, Ground Floor

Objectives: 1. The student will increase his skills in the history and physical examination of the normal infant and child and the infant and child with suspected or documented congenital or acquired heart disease.
2. The student will become familiar with a routine evaluation of the infant or child with congenital heart disease. This would include the portions of the history and physical examination, which are of particular importance in evaluating heart disease. This would also include the indications for, the interpretation of, and the significance of the routine laboratory data commonly used in evaluating children with heart disease such as the chest x-ray and EKG.
3. The student will increase his understanding of embryology, pathophysiology, mechanism of various forms of congenital and acquired heart disease and correlates with clinical symptomatology and signs.
4. The student will acquire knowledge of the usual principles involved in caring for the sick infant or child with congenital or acquired heart disease. This would particularly include the management of the child with cyanotic heart disease and the management of the child with congestive heart failure.
5. The student will specifically increase understanding of normal and abnormal heart sounds and murmur and its significance in congenital and acquired heart disease.
6. During the course, special exposure will be given to various laboratory tests, e.g., cardiac catheterization angiography, angioplasty, electrocardiogram, M-mode-2D and color Doppler Echo-cardiogram, exercise stress test, 24 hour Holter recording, pacemaker follow-up by telephone, etc.

Course Outline: 1. The student will spend two or four weeks in the Pediatric Cardiology Elective Clerkship.
2. There will be a schedule of regular assignments which would include daily patient rounds with the attending physician at Johnson City Medical Center Hospital, evaluation of out-patients under the direction of the attending physician, and accompanying the attending physician for emergency or elective consultations. The student will also be expected to be available for participation in the emergency evaluation of infants and children with
In addition to the inpatient and outpatient clinical work outlined above, the student will participate in a regularly scheduled series of discussions covering common topics in congenital and acquired heart diseases. This would also include instruction in the evaluation of the common laboratory tests used in evaluating the child with congenital heart disease such as interpreting electrocardiograms, chest x-rays, and a broad understanding of the principles involved in echo cardiography and cardiac catheterization. This would also include instruction in the common therapeutic modalities involved in managing the infant or child with congenital heart disease, and management of the post-operative patient.

Format and Mechanics:

1. The third or fourth year elective in Pediatric Cardiology is elective at the request of the student.
2. No more than two students will be accepted during any one rotation time.
3. The Pediatric Cardiology elective will be based in the outpatient facilities of the ETSU Physicians Associates at 325 State of Franklin Road, Johnson City, JCMC, the Rural Health Consortium in Rogersville, and the Cherokee Health Systems in Morristown.

Methods of Instruction:

1. Major teaching methods will be that of a preceptorship model with a student under the preceptorship of the faculty in Pediatric Cardiology, the College of Medicine.
2. In addition to the inpatient and outpatient clinical experience as outlined above, a considerable time will be spent in informal discussion of various topics. The student will also be expected to cover assigned mandatory reading material as it pertains to Pediatric Cardiology.
3. Student is required to review a video tape on pediatric echocardiograms, and a computer CD on heart murmurs.

Course Schedule:

Any two or four week rotation compatible with the overall senior electives program will be acceptable.

Evaluation:

1. Student performance in the clerkship will be evaluated by the utilization of a structured subject of evaluation format similar to that used in the junior pediatric clerkship.
2. An open-book examination to be completed during the clerkship.
3. During the time of the clerkship, the student will be informed of his progress and any problem areas will be discussed.
4. The clerkship grade will be based on the evaluation of the structured subjective format.
Course Number: PEDS5001-7
JCMCH

Instructor: Kathryn Klopfenstein, M.D.
David K. Kalwinsky, M.D.

Responsible Faculty: David K. Kalwinsky, M.D. - (423) 439-6222

Duration: 2 weeks

Periods Offered: ALL (subject to availability)

Distribution of student's time:
- Inpatient Care/Outpatient Care: 50%
- Clinical Rounds: 20%
- Conferences/Lectures: 20%
- Laboratory Work: 10%

Enrollment/Period: 1 maximum

Prerequisites: Permission of Instructor

Initial Meeting Place and Time: St. Jude Tri-Cities affiliate, Niswonger Childrens Hospital
8:30 a.m.

Description: Students will participate in all daily clinical activities of the ETSU pediatric hematology/oncology division including inpatient and ambulatory oncology and hematology clinic at St. Judes Tri-Cities affiliate. The student will see and evaluate all new consults, participate in the work-up of new patients and attend grand rounds, tumor board and journal club. Didactic tutorials will be provided weekly by the attending staff to cover general hematology/oncology topics.

Objectives:
1. Introduction to diagnosis and treatment of common pediatric hematologic problems - anemias, neutropenias, thrombocytopenias.
2. Interpretation of standard hematologic tests including coagulation tests, special stains, blood and morphology and marrow smears, flow cytometry, tumor markers and tumor cytogenetics.
3. Develop an appreciation of the multi-disciplinary approach required for evaluation and planning of cancer therapy for children.
4. Become familiar with common pediatric cancer presentations including leukemias and abdominal masses.
Pediatrics

PEDIATRIC INFECTIOUS DISEASE

Course Number: PEDS5001-8
JHQCOM

Instructor: Demetrio R. Macariola, Jr., M.D

Responsible Faculty: Demetrio R. Macariola, Jr., M.D
Contact Number: (423) 677-3213

Periods Offered: All

Duration: 4 weeks

Distribution of Student’s Time:

- Inpatient Care……………………………. 45%
- Outpatient Care……………………………45 %
- Conferences and Lectures………………..10%

Maximum Number of Students: 1

Prerequisites: Junior/ Senior Medical student

Meeting Place: Morning Report 8am Women & Children’s Conference Room

Goals: To develop comprehensive understanding of the principles of infectious diseases as they relate to the practice of pediatrics.

Objectives:

1. Diagnosis of bacterial infections such as otitis media, pharyngitis, pneumonia, meningitis, septic arthritis, osteomyelitis, urinary tract infections and other infections based on history, physical examination findings and laboratory tests.
4. Recognition of common viral infections in children based on presentation and use of appropriate serologic tests.
5. Understanding of the principles of hospital infection control.

Skills:

1. Recognize whether a bacteria is gram positive or gram negative.
2. Recognize the different parasitic ova, trophozoite or cyst.

Format and Mechanics:

1. Student will become part of the pediatric infectious disease service at the JCMC Children’s Hospital. Student is expected to obtain history, physical examination, review the laboratory tests and follow up the patients referred to the pediatric infectious disease service under close supervision of the pediatric infectious disease attending.
2. Student on rotation is expected to see patients at the pediatric infectious disease outpatient clinic.
3. Student is expected to attend the daily pediatric morning report.
4. Student is expected to present one case report to the pediatric infectious disease attending during the rotation. Student will discuss the epidemiology, pathogenesis, symptomatology and treatment plan of the case presented.
5. Images of infectious rashes, gram stained bacteria and parasite ova, cyst or trophozoite will be presented to the student during the rotation.
6. Evaluation will be based on the performance of the student in evaluating and following patients, case presentation and recognition of the different images of infectious rashes, gram stained bacteria and parasites.
**Pediatrics**

**PEDIATRIC OFFICE PRECEPTORSHIP**

*Course Number:* PEDS5001-9

**Instructor:**
- Todd Aiken M.D.
- Debra Mills, M.D.
- Dawn Tuell, M.D.
- Rebecca Powers, M.D.

**Responsible Faculty:** Debra Mills, M.D. - (423) 439-6228

**Duration:** 4 weeks

**Periods Offered:** All

**Distribution of student's time:**
- Outpatient Care: 95%
- Conferences/Lectures: 5%

**Enrollment/Period:** 1 maximum

**Prerequisites:** Completion of third year pediatric clerkship.

**Objectives:**
1. The student will develop expanded knowledge concerning the evaluation and management of routine pediatric problems and well child care as seen in the ambulatory pediatric clinic.
2. The student will acquire particular skills in interviewing the pediatric patient and his/her parents and in communicating findings to the child and his/her parents.
3. The student will know the currently accepted diagnostic routines and therapeutic programs for common acute illnesses of childhood, particularly otitis media, respiratory tract infections, gastroenteritis, obesity, failure to gain weight, behavioral problems and nutritional problems in pediatrics.

**Course Outline:**
1. The student will spend the majority of their day in the general pediatric clinic at ETSU Pediatrics.
2. Course minimum is 2 weeks with a maximum of 4 weeks on rotation.

**Method of Instruction:**
The student will be under the preceptorship of the General Pediatrics Faculty/ETSU Pediatrics. The student’s major teaching activities will center around direct preceptorship of patient care. Independent study materials will be developed and required reading topics will be assigned.

**Evaluation:**
The student will be evaluated by the General Pediatrics Faculty/ETSU Pediatrics utilizing standard Department of Pediatrics student evaluation forms.
### PEDIATRIC RENAL ELECTIVE

**Course Number:** PEDS5001-11  
JCMCH

**Instructors:** Ahmad Wattad, M.D.

**Responsible Faculty:** Ahmad Wattad, M.D. - (423) 439-6228

**Duration:** 2 weeks

**Periods offered:** All except periods 2c through 3c

**Distribution of student's time:**
- Inpatient Care: 15%
- Outpatient Care & Teaching Sessions: 85%

**Enrollment/Period:** 1 maximum

**Prerequisites:** None

All senior students who take the renal elective should fulfill the following:

1. Students should attend the pediatric renal clinic held six times a week.
2. Students will be the first to see patients who require renal consults, after which cases will be discussed with the staff nephrologist.
3. Students are required to do daily rounds with the staff and see all patients who are admitted under pediatric renal service or seen in consultation for other pediatric services.
Pharmacology

INDEPENDENT PROBLEMS IN PHARMACOLOGY

Course Number: PHRM5001-1
JHQCOM

Instructors: Pharmacology Faculty by Arrangement

Responsible Faculty: Department Faculty - (423) 439-6207

Duration: By Arrangement

Periods Offered: All By Arrangement

Estimated Distribution of student's time:
Conferences/Lectures.................................80%
Laboratory Work........................................20%

Enrollment/Period: 4 maximum

Description: Research projects of limited scope to allow the student to develop certain
skills or establish a specific research area. Conference and laboratory.
Pharmacology

PHARMACOLOGY SEMINAR (Journal Club)

Course Number: PHRM5001-2
JHQCOM

Instructor: Donald B. Hoover, Ph.D.

Responsible Faculty: Donald B. Hoover, Ph.D. - (423) 439-6321

Duration: 8 weeks

Periods Offered: August - December

Estimated Distribution of student's time:
Conferences/Lectures ........................................100%

Enrollment/Period: 2 minimum, no maximum

Description: Presentation by students and faculty of a review of the status of a particular topic of interest. Students must be prepared to participate in discussion. Can be taken repeatedly for credit.
Course Number: PHRM5001-3
JHQCOM

Instructor: Kenneth E. Ferslew, Ph.D., DABFT

Responsible Faculty: Kenneth E. Ferslew, Ph.D., DABFT - (423) 439-6424

Duration: 8 weeks (odd years)

Periods Offered: 1 a,b,c,d; 2 a,b,c,d

Estimated Distribution of student's time:
- Clinical Rounds: 5%
- Conferences/Lectures: 80%
- Laboratory Work: 15%

Enrollment/Period: 2 maximum

Description: An introduction to the basic principles of toxicology including consideration of specific topics such as heavy metals, organic solvents, alkaloids, glycosides, polypeptides, and techniques used in conducting toxicological research. Special emphasis will be placed on the clinical aspects of toxicology. The application of gas chromatographic mass spectroscopy and other instrumental techniques as analytical tools for toxicological investigations will be considered. Offered alternate years. Two hours lecture and demonstration per week.
Physiology

CENTRAL NEURAL CONTROL OF ARTERIAL PRESSURE

Course Number: PHYS5001-2
JHQCOM

Instructor: Carole Williams, Ph.D.

Responsible Faculty: Carole Williams, Ph.D. - (423) 439-6238

Duration: 6 weeks

Periods Offered: 1, 2, 3

Distribution of student's time: Laboratory Work ........................................100%

Enrollment/Period: 2 maximum

Prerequisites: None

Description: Primary hypertension affects some 50 million individuals in the U.S. While there are a number of factors interacting in this condition, one area that may be a major contributing factor is the difference in the neural regulation of central cardiovascular-controlling neurons in these individuals. Elective projects could include exploring those neuropeptide transmitters involved with the regulation of pre-motor sympathetic neurons in the brainstem. Measurement of the release of these peptides using antibody-coated microprobes will determine when and where these modulatory substances come into play in regulating arterial blood pressure. Models of hypertension can be used to explore differences in the patterns of release of these peptides. Other neurophysiological techniques can be used to gain insight into the mechanisms used by these modulators to control arterial pressure.
Physiology

STUDIES OF CELL PERMEABILITY

**Course Number:** PHYS5001-5
JHQCOM

**Instructor:** Robert Wondergem, Ph.D.

**Responsible Faculty:** Robert Wondergem, Ph.D. - (423) 439-6237

**Duration:** 6 weeks

**Periods Offered:** 1, 2, 3

**Distribution of student's time:** Laboratory Work ...........................................100%

**Enrollment/Period:** 2 maximum

**Prerequisites:** None

**Description:** Changes in liver metabolism lead to osmotic imbalances by virtue of shifts in concentrations of intracellular organic osmolytes. Consequently, acute regulation of hepatocyte volume is necessary to maintain hepatic function. Our working hypothesis is that various hepatocellular toxic substances (e.g. ethanol) may alter metabolism and lead to cell swelling. Dysfunction of volume control by hepatocytes may lead to prolonged cell swelling compression of sinusoids, portal hypertension, decreased blood flow, and anoxic degeneration of the organ. Electrophysiological techniques will be used to study volume regulation in liver cells. This includes conventional microelectrodes, ion-sensitive microelectrodes, and patch-clamp electrodes. Objectives will be to learn these techniques, to conduct relevant experiments, and to become acquainted with current literature related to cell volume regulation and hepatic function.
Psychiatry

SENIOR ELECTIVE IN CONSULTATION/LIAISON

Course Number: PSYH5001-2
VAMC

Instructor: Richard Haaser, M.D. (423) 926-1171, Ext. 7709
Hetal Brahmbhatt, M.D. (423) 439-8010

Responsible Faculty: Richard Haaser, M.D.
Hetal Brahmbhatt, M.D.

Duration: 4 weeks

Period Offered: All

Enrollment/Period: 1 maximum

Initial Meeting Time/Place: To be arranged with the course instructor

Objectives:
1. Develop interviewing skills.
2. Refine compilation of data for mental status examination.
3. Elaborate biopsychosocial presentation methodology.
4. Learn about the interface between psychiatry and other medical disciplines.

Course Outline:
A senior medical student participates as a member of the Consultation/Liaison Psychiatry Team at the VAMC Psychiatry Services. This student will be involved in performing evaluative and therapeutic advisory services in those services under the supervision of the course instructor.

Mechanics:
The student may take the entire or half of the rotation either at the VAMC C/L psychiatry service or the University C/L psychiatry service. The student will be present daily to round with the C/L Psychiatry team, which consists of a senior attending psychiatrist, one or two psychiatry residents, and one or two junior medical students.

Methods of Instruction:
Daily tutorial instruction with special emphasis on observed interviews and focused presentations. In addition, attendance at weekly consultation/liaison conferences will be expected. Guided reading from two textbooks, Psychiatric Care of the Medical Patient by Stoudemire & Fogel and Textbook of Consultation/Liaison Psychiatry by Rundell & Wyse as well as various psychiatric journals will be expected.

Distribution of student's time:
Inpatient Care .........................................................40%
Clinical Rounds .........................................................30%
Conference/Lectures .......................................................30%

Course Schedule:
The student will be present daily (Monday-Friday, 8:00am to 4:30pm) to round with the C/L Psychiatry Team.

Evaluation:
Will be accomplished via input from the attending psychiatrist and psychiatry residents. A brief (5-15 pages) paper on a mutually agreeable consultation or liaison topic will constitute 25% of the grade. All performance reports will be compiled utilizing currently extant ETSU Quillen College of Medicine forms that are appropriate and applicable.
Psychiatry

CHILD AND ADOLESCENT PSYCHIATRY

Course Number: PSYH5001-3

Instructors: Jill McCarley, M.D. (423) 928-7111
Michele Moser, Ph.D. (423) 439-2215
John Pruett, M.D. (423) 439-8010
Steven Shulruff, M.D. (423) 439-2205

Responsible Faculty: John Pruett, M.D.

Duration: 4 weeks

Periods Offered: All

Distribution of Time: Outpatient Care..................................................40%
Library Review-selected topics.................................10%
Multidisciplinary Treatment Team...........................10%
Inpatient Treatment..................................................40%

Enrollment: 3 maximum

Objective: This elective will offer the student an opportunity to expand his/her knowledge and experience in child and adolescent psychiatry. The training program tries to produce informed, academically capable, responsible, sensitive, ethical practitioners able to diagnose and treat the range of psychiatric disorders as well as psychiatric facts of other medical and neurological disorder.

Learning Objectives:
1. Comprehensive diagnostic evaluation of child and adolescent psychiatric patients.
2. Aspects of development
3. Psychopathology
4. Multidisciplinary treatment team approach
5. Pharmacologic treatment
6. Other modalities of treatment
7. Consultation/Liaison

Outline Objectives:
1. Diagnostic evaluation B
   Interviewing patient and family using Behavior Rating Scales as clinical tool
2. Developmental Milestones B
   Develop treatment care plan for each child considering the child’s developmental level, assets, problems and goals.
3. Psychopathology
   ADHD
   Childhood Depression
   Anxiety
   Bipolar Disorder
   Developmental Disorder
   Eating Disorder; PTSD
   Learning Disorder
   Child Abuse/Neglect
Psychiatry

4. Interdisciplinary
   Staff Conferences/Individual Conference
   Communication/Staffing notes and medical records
   Childhood psychiatric disorders are conceptualized from the framework of biopsychosocial model. A multidisciplinary approach is employed in the comprehensive evaluation and treatment of children.

5. Available Medication for children with psychiatric disorders
   Pharmacology
   Efficacy
   Safety, abuse, misuse and inappropriate use.

6. Individual Therapy/Play Therapy
   Family Therapy
   Group Therapy
   Cognitive/Behavioral Therapy
   Supportive Therapy
   Occupational Therapy
   Recreational Therapy

7. Medically ill population with psychiatric problems. Liaison with other disciplines like pediatrics and other medical staff in the hospital.

Method of Instruction: Didactic, Preceptorship, Lecture, Case Presentations
Method of Evaluation: Clinical performance and completion of assignments report will be compiled by attending utilizing current College of Medicine evaluations
Location: Outpatient Psychiatry Services; University Physicians Consultation/Liaison, Center of Excellence; Inpatient Service, Adolescent Unit at Woodridge Hospital
Psychiatry

NEUROPSYCHIATRIC CLINICAL RESEARCH

Course Number: PSYH5001-4

Instructors: Barney E. Miller, Ph.D. - (423) 439-2121
A204, Stanton-Gerber Hall; millerb@etsu.edu

Duration: 4-8 weeks

Periods Offered: All

Distribution of Time:
Conferences/Lectures............................................20%
Laboratory Work.....................................................80%

Enrollment: 3 maximum

Prerequisites: None, however students must meet with Dr. Miller well in advance of enrolling in this elective.

Objective: After completion of this course the student should be able to design, plan and execute a Clinical Research Project within an academic setting.

Course Outline:
A. Basic Training (Lecture/Practical)
   1. Use of the modern library and information services
   2. Use of personal computers to prepare:
      a. Written drafts
      b. Basic calculations
      c. Statistical analysis
      d. Plots and charts
      e. Presentation

B. Basic Scientific Methods (lecture by instructor)
   1. Idea formulation
   2. Determination of methods
   3. Acquisition of Resources
   4. Obtaining approval

C. Project Selection (guided by mentor)
   -- Finding a mentor (guided by instructor)

D. Execution of Project (guided by mentor/instructor)

E. Presentation of Project (guided by instructor)
   1. Oral presentation to Psychiatry Research Group
   2. Written presentation to course director
      -- Publication possibilities
Additional Information Regarding Course:

1. Those persons that can demonstrate proficiency in items from Section A (above) will be exempted from this section.
2. Those persons with previous Research Training or degrees (MS or PhD) can also be exempted from Section B.
3. This elective is NOT a library project, i.e. read literature and write a paper, but rather, this is a NEW research project. Since the time is very short the projects must be amenable to the time constraints. Typical projects would include survey studies like:
   a. Survey of eating attitudes among medical students using the EAT40 questionnaire
   b. Survey of religious attitudes among Psychiatric inpatients at the Mountain Home Veterans Hospital
   c. Survey of Professional attitudes about Mental Illness among Faculty at ETSU
   d. Assessment of Mental Illness among College Seniors using a Structured interview method
   e. Comparison of the SCL90, the BECK Depression Inventory and the Hamilton Depression Rating scales among Psychiatric outpatients.
4. Other projects available (by collaboration with the Principal Investigators within our Department) are described on the Department of Psychiatry Web Pages under "Current Research Projects." Projects which involve NO-RISK to human subjects are typically rapidly approved by our Institutional Review Board for human subjects. However, projects which do involve some or considerable risk to subjects will require time for approval, which are too long for this course would need to be ongoing (i.e., already approved).
5. "Wet lab" projects (those involving biochemical measures, molecular or cellular biology) are also possible. Our Departmental Core Research Facility contains a complete biochemical and cellular biological laboratory. Such projects would require Mentor financial support for supplies (which is usually available).
6. Other Departmental resources include: EEG analysis, pain sensitivity measurement (low-risk method using an infra-red light), exam room (basic physical measures: blood pressures, weight, etc.), video equipment, and computer psychological testing.
7. Please see our WEB page for more information about our Department. <http://qcom.etsu.edu/psych/index.htm>
8. Prospective students are STRONGLY encouraged to schedule a meeting with Dr. Miller as soon as they expect to register for this elective so that discussion about the project can begin as early as possible. This is especially important if the project may involve "some risk" (usually defined as any procedure in which the subject "might possibly be injured" in any way) or if laboratory procedures are involved (ordering supplies can take weeks.)
Psychiatry

OUTPATIENT PSYCHIATRY

Course Number: PSYH5001-5

Instructors: Liz Ahmad, M.D. Merry Miller, M.D.
Jill McCarley, M.D. Michele Moser, Ph.D.
Allen Dyer, M.D. Shanthia Pandian, M.D.
Michelle King, M.D. Andrew Spitznas, Ph.D.
Patrick MacMillan, M.D. Rakesh Patel, M.D.
John Pruett, M.D.

Elective Director: Merry Miller, M.D.  (423) 439-2233
Coordinator: Wanda B. Young  (423) 439-2244

Periods Offered: ALL

Enrollment/Period: 1 maximum

Initial Meeting Place: Student will be notified one week prior to beginning of rotation for meeting place/time.

Description: This elective is designed to provide maximal exposure to various forms of outpatient psychiatry and this is a useful complement to the required rotation that is more inpatient based. It also provides for training from a variety of departmental faculty such that an educational experience is enhanced with multiple perspectives on outpatient treatment.

Students will take part, Monday - Friday, in a variety of learning experiences including traditional outpatient University Physicians based practice, VA Outpatient clinic, child and adolescent practice, and intensive outpatient program. Additionally, students may take part in resident didactic seminars on Tuesday afternoons; attend other departmental educational seminars; and other available offerings. Students will have no on-call or weekend responsibilities.

Objectives:
1. Exposure to and intensive education regarding the outpatient psychiatric treatment of adults and children
2. Limited observation of outpatient psychotherapeutic activities
3. Exposure to resident educational seminars
4. Exposure to the educational opportunities available at ETSU for specialty training in psychiatry
5. Exposure to outpatient academic practice

Methods of Instruction:
1. Personalized mentoring and preceptorship
2. Clinical interactions and patient contact
3. Discussion
4. Reading

Evaluation: Will be accomplished via input from supervising attendings. All performance reports will be compiled utilizing current applicable College of Medicine grading forms.
Radiology

CLINICAL RADIATION ONCOLOGY

Course Number: RADI5001-1
JCMCH

Instructors: Kyle Colvett, M.D.
James G. Blom, M.D.

Responsible Faculty: Kyle Colvett, M.D. - (423) 431-6000

Duration: 2 or 4 weeks

Period Offered: ALL

Distribution of student's time:
- Inpatient Care .................................................5%
- Outpatient Care .............................................75%
- Clinical Rounds ..............................................5%
- Conferences/Lectures .................................15%

Enrollment/Period: 2 maximum

Prerequisites: None

Initial Meeting
Place & Time: Dept. of Radiation Oncology - Cancer Treatment Center

Objectives: The objectives are for the medical student to participate fully in the assessment and management of cancer patients. The course will consist of daily instruction with formal and informal lectures on tumor biology, radiation biology and radiation physics. Students will be actively included in procedures, planning and consultation. The class schedule will consist of daily attendance at the Regional Cancer Center. A brief presentation will be required at the end of the elective. Special interests of students can be pursued by participation in procedures or directed research.
Radiology

INTRODUCTION TO CLINICAL RADIOLOGY

Course Number: RADI5001-2
BRMC

Instructors: Michael Alder, M.D. Terrell Estes, M.D.
Richard Foster, M.D. Richard Gentry, M.D.
Jack Hoffnung, M.D. John Hutchinson, M.D.
William Johnstone, M.D. William Whisnant, M.D.

Responsible Faculty: Terrell Estes, M.D. - (423) 844-2200 or (423) 844-2340

Contact: Iris Forrester – (423) 844-2340

Duration: 4 weeks

Periods Offered: 2c,d; 3a,b; 5a,b

Distribution of student's time:
- Diagnostic Procedures: 10%
- Radiographic Interpretation: 50%
- Conferences/Lectures: 10%
- Observation: Radiologic Methods: 20%
- Self Study, Teaching File: 10%

Enrollment: 1 student

Prerequisites: Completion of third year curriculum

Course Goals:
1. Review of basic principles of radiology,
2. Review radiographic anatomy and physiology,
3. Develop the ability to recognize an abnormal radiograph and develop an approach to interpretation of radiographs,
4. Develop a concept for the way radiology can be utilized in solving diagnostic problems and in patient care,
5. Learn indications, contraindications, and proper sequence of various radiographic procedures,
6. Observe various radiographic techniques with the intent to develop a basic understanding of procedures and uses.

Educational Objectives:
The student will be offered the opportunity to experience directly the application of general radiologic techniques to the diagnostic problems posed by patients with a wide variety of common clinical disorders and thus define the role of the radiologist in patient care. Major emphasis is placed on routine examinations of the chest, abdomen, skeletal system, gastrointestinal and urinary tracts and head and neck.
Radiology

INTRODUCTION TO CLINICAL RADIOLOGY

Course Number: RADI5001-3
HVHMC

Instructors: Kelly Cassady, M.D. John Creasy, M.D.
Daniel Do-Dai, M.D. Preston Fox, M.D.
Tom Lepsch, M.D. John McMurray, M.D.
Jim Phillips, M.D. Tom Pugh, M.D.
John Siner, M.D. David Sparks, M.D.
Andrew Spillett, M.D. Larry Westerfield, M.D.
Gert Vander Westhuizen, M.D. David Wood, M.D.

Responsible Faculty: Tom Pugh, M.D., Chair and Medical Director

Contact: Judy Dixon - HVHMC Radiology - (423) 224-6830

Duration: 4 weeks

Periods Offered: 3 a.b; 5 a.b

Distribution of student's time:
- Diagnostic Procedures……………………………………10%
- Radiographic Interpretation…………………………….20%
- Conferences/Lectures……………………………………10%
- Observation: Radiologic Methods……………………..20%
- Self Study, Teaching File……………………………...40%

Enrollment: 1 maximum

Prerequisites: Completion of third year curriculum

Course Goals:
1. Review the basic principles of radiology,
2. Review radiographic anatomy and physiology,
3. Develop the ability to recognize an abnormal radiograph and develop an approach to interpretation of radiographs,
4. Develop a concept of the way radiology can be utilized in solving diagnostic problems and in patient care,
5. Learn indications, contraindications, and proper sequence of various radiographic procedures,
6. Observe various radiographic techniques with the intent to develop a basic understanding of procedures and uses.

Educational Objectives: The student will be offered the opportunity to experience directly the application of general radiologic techniques to the diagnostic problems posed by patients with a wide variety of common clinical disorders and thus define the role of the radiologist in patient care. Major emphasis is placed on routine examinations of the chest, abdomen, skeletal system, gastrointestinal and urinary tracts and head and neck.
Radiology

INTRODUCTION TO CLINICAL RADIOLOGY

Course Number: RADI5001-5
VAMC

Instructors: William Kauffman, M.D.

Responsible Faculty: William Kauffman, M.D. - (423) 926-1171, Ext. 7401

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
- Radiographic Interpretation: 15%
- Conferences/Lectures: 5%
- Observation: Radiologic Methods & Procedures: 35%
- Self Study, Teaching File: 45%

Enrollment: 2 maximum

Prerequisites: Completion of third year curriculum

Course Goals:
1. Review the basic principles of radiology,
2. Develop the ability to recognize an abnormal radiograph and develop an approach to interpretation of radiographs,
3. Develop a concept of the way radiology can be utilized in solving diagnostic problems and in patient care,
4. Learn indications, contraindications, and proper sequence of various radiographic procedures,
5. Observe various radiographic techniques with the intent to develop a basic understanding of procedures and uses.

Educational Objectives:
The student will be offered the opportunity to experience directly the application of general radiologic techniques to the diagnostic problems posed by patients with a wide variety of common clinical disorders and thus define the role of the radiologist in patient care. Emphasis is placed on routine examinations of the chest, abdomen, skeletal system, gastrointestinal and urinary tracts and head and neck.
## Radiology

### SPECIAL DIAGNOSTIC OR THERAPEUTIC RADIOLOGY

<table>
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<th>Course Number:</th>
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| Instructors: | Terrell Estes, M.D. | John Hutchison, M.D. |
|              | John Fincher, M.D.  | William Johnstone, M.D. |
|              | Richard Foster, M.D.| Bradley Miller, M.D.   |
|              | Rick Gentry, M.D.  | William Whisnant, M.D. |
|              | Jack Hoffnung, M.D.| Radiation Therapist, and Staff |

| Responsible Faculty: | Terrell C. Estes, M.D. - (423) 844-2200 |

| Duration: | 2 weeks |

| Periods Offered: | 2c, 4c, 5c |

| Distribution of student's time: | Diagnostic Procedures..........................10% |
|                                 | Radiographic Interpretation....................30% |
|                                 | Conferences/Lectures............................10% |
|                                 | Observation: Radiologic Methods...............30% |
|                                 | Self Study, Teaching File........................20% |

| Enrollment: | 1 maximum |

| Prerequisites: | Introduction to Clinical Radiology elective or its equivalent and permission of Instructor |

| Educational Objectives: | A two-week intensive experience in a specialty area of radiology will be available. These include Imaging, CT, Nuclear Medicine, Ultrasound, Radiation Therapy, Diagnostic Radiology and Special Procedures. The goals of this elective are similar to those for the introductory radiology course as they apply to a particular specialty area. If interested, a student should contact Dr. Estes to discuss possibilities of specific specialty rotation desired. |
Radiology

SPECIAL DIAGNOSTIC OR THERAPEUTIC RADIOLOGY

Course Number: RADI5001-7
HVHMC

Instructors: Kelly Cassady, M.D.  John Creasy, M.D.
Daniel Do-Dai, M.D.  Preston Fox, M.D.
Tom Lepsch, M.D.  John McMurray, M.D.
Jim Phillips, M.D.  Tom Pugh, M.D.
John Siner, M.D.  David Sparks, M.D.
Andrew Spillett, M.D.  Larry Westerfield, M.D.
Gert Vander Westhuizen, M.D.  David Wood, M.D.

Responsible Faculty: Tom Pugh, M.D., Chair and Medical Director

Contact: Judy Dixon - HVHMC Radiology - (423) 224-6830

Duration: 2 weeks

Periods Offered: 3d, 5d

Distribution of student's time:
Diagnostic Procedures ........................................30%
Radiographic Interpretation .................................30%
Self Study, Teaching File ..................................20%
Observation: Radiologic Methods ..........................15%
Conferences/Lectures ........................................5%

Enrollment: 1 maximum

Prerequisites: Introduction to Clinical Radiology elective or its equivalent and permission of instructor.

Educational Objectives: A two-week intensive experience in a specialty area of radiology will be available. These include Ultrasonography, CT, Nuclear Medicine, MRI’s, and Angiography. The goals of this elective are similar to those for the introductory radiology course as they apply to a particular specialty area. If interested, a student should contact Dr. Pugh to discuss possibilities of specific specialty rotation desired.
Course Number: RADI5001-8
JCMCH

Instructors: José Picaza, M.D.
Glynda Ramsey, M.D.

Responsible Faculty: José Picaza, M.D. - (423) 431-6130
Glynda Ramsey, M.D. - (423) 431-6768

Duration: 2 weeks

Periods Offered: 3a, 5a, 5d

Distribution of student's time:
- Diagnostic Procedures........................................50%
- Radiographic Interpretations.................................30%
- Conferences/Lectures.........................................20%

Enrollment: 3 maximum

Prerequisites: Introduction to Clinical Radiology elective or its equivalent and permission of Instructor.

Educational Objectives: A two-week intensive experience in a specialty area of radiology will be available. These include Computed Tomography, Nuclear Medicine, Ultrasonography, Radiation Therapy. The goals of this elective are similar to those for the introductory radiology course as they apply to a particular specialty area. If interested, a student should contact Dr. Picaza or Dr. Ramsey to discuss possibilities of specialty rotation desired.
Section of Medical Education

STATISTICS AND RESEARCH DESIGN IN THE MEDICAL SCIENCES

Course Number: MEDU5001-1
JHQCOM

Instructors: John Kalbfleisch, Ph.D.

Responsible Faculty: John Kalbfleisch, Ph.D. - (423) 439-6232

Duration: 2 weeks

Periods Offered: 4, 5

Distribution of student's time: Conferences/Lectures------------------------25%
Independent/Laboratory Work----------------------------------75%

Enrollment/Period: 3 maximum

Educational Objectives: Upon completion of the elective, the student should be able to:

1. Discuss the importance of proper research design and its implications for the eventual interpretability of a study.
2. Select/develop an appropriate research design when given a research question or problem.
3. Select an appropriate statistical analysis when given a research design statement.
4. Carry out statistical analyses using appropriate statistical software on the microcomputer, e.g., SAS, SPSS, Minitab, and software on the Internet.
5. Critique the research design and statistical analyses used by others.
6. Design a research study of his/her own.

This elective will involve discussions, demonstrations, student presentations, reading assignments, and statistical problems to be solved using available computer packages.

In order to successfully complete the course, all students must fulfill the following requirements:

1. Participate in discussions,
2. Present two critiques of assigned research articles, in writing and orally,
3. Hand in all statistical problem assignments,
4. Design and present a proposed research study of their own design,
5. Carry out and present the analysis of real or dummy data pertaining to the student research design.

This elective will be arranged to meet the individual needs of each student within the guidelines given above.
**Section of Medical Education**

**ADVANCED PHYSICAL DIAGNOSIS**

**Course Number:** MEDU5001-2

**Instructor:** J. Kelly Smith, M.D.

**Responsible Faculty:** J. Kelly Smith, M.D.

**Contact:**
- Sharon Smith, 439-8002
- Darcy Martin, 439-6311

**Duration:** 2 weeks

**Periods Offered:** All

**Distribution of Student’s time:**
- Case presentations, computer simulations ..........50%
- Bedside instruction .......................................50%

**Enrollment:** 2 minimum; 6 maximum

**Initial Meeting Place:** Bldg. 178, Stanton-Gerber Hall, Room A-134 (which is on the first floor) at 9:00 a.m.

**Objectives:**
To provide the student with an advanced understanding of bedside diagnostic methods, and with a knowledge of differential diagnosis.

**Course Outline:**
The course is designed with maximum flexibility to meet student needs.

Morning sessions are conducted by Dr. Smith from 9:00 a.m. to noon in the physiology conference room (A-134). Sessions include the presentation of over 600 slides of unknown cases, each depicting a physical manifestation and a key symptom or epidemiologic clue that, when recognized, will permit a specific diagnosis. More detailed cases, which include EKGs, chest x-rays, and actual heart & lung sounds, are also presented. In addition, time is allotted for students to listen to both real and simulated heart sounds on an advanced computer program designed for this use.

Bedside instruction using Veterans Affairs Hospital patients is conducted each afternoon by Dr. Smith from 1:00 to 3:00 p.m. Emphasis is placed on providing the student with advanced skills in the art of palpation, percussion, and auscultation of the heart, lungs, abdomen, and peripheral vascular system, and in the performance of the neurologic examination. Where appropriate, heart, lung, and abdominal sounds are recorded at the bedside using a Model 4000 Littmann stethoscope for later downloading and examination by the student.

**Recommended textbook:** *DeGowin’s Diagnostic Examination*, seventh edition, McGraw-Hill, New York

**Methods of Instruction:** Case presentations, bedside teaching, computer simulators

**Evaluation:** Evaluations are made by Dr. Smith using the James H. Quillen College of Medicine’s standardized elective form.
Surgery

ANESTHESIOLOGY

Course Number: ANES5001-1
VAMC

Instructors: Mark Edenfield, M.D.

Responsible Faculty: Mark Edenfield, M.D. - (423) 926-1171, ext. 7360

Duration: 2 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care .........................................95%
Clinical Rounds .........................................................5%

Enrollment/Period: 2 maximum

Prerequisites: Senior student

Objectives: A two-week clerkship in anesthesiology is geared to introducing the student to anesthesia in its clinical setting. Acquaintance with equipment, techniques, patient assessment and contact will be afforded the student. Development of minimal skills in endotracheal intubation, placement of soft catheter IV lines, and management of the airway under a mask in the unconscious patient will be among the opportunities offered the student.

Course Outline: Will vary with available clinical material.

Mechanics: Students will report to the operating suite of the VAMC at 7:00 a.m. Monday through Friday of each week. Students will be assigned by the Director of the program to the CRNA administering the anesthesia for the most interesting cases of the day or to the CRNA with a patient that provides a specific learning experience for the student. The CRNA assumes a preceptor role for the assigned period. Students will be expected to make preoperative rounds as assigned by the Chief CRNA. She will give each student an orientation to the procedure on the first day of the rotation.

Method of Instruction: One-on-one discussions and hands-on demonstrations. Reading assignments will arise from discussions where appropriate.

Course Schedule: Students shall be expected to remain with the assigned anesthetist until the day's work is completed or until moved by the Director or excused by the preceptor. There will be daily discussions on selected topics with the Director of the program at the end of the O.R. experience or when feasible during the daily schedule.

Evaluation: Shall be done by the Director and preceptors based on the degree of skills attained and knowledge and interest displayed by the student.
ANESTHESIOLOGY

Course Number: ANES5001-2
JCMCH

Instructors: David Kreshek, M.D.
Martin Eason, M.D.

Responsible Faculty: David Kreshek, M.D.

Contact: Pam Reed - (423)-431-2086

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
Human Patient Simulator and Didactic Teaching.........50%
Patient Care and Clinical Rounds .........................50%

Enrollment/Period: 1 maximum

Prerequisites: Completion of third year curriculum

Objectives: A two-week clerkship in Anesthesiology is geared to introducing the student to the specialty of Anesthesiology. Acquaintance with equipment, techniques, pharmacologic agents, patient assessment and contact will be afforded the student. Development of skills in airway assessment and management (to include endotracheal intubation), intravenous access (both central and peripheral), will be among the opportunities offered the student.

Course Outline: Students will be instructed in basic anesthetic pharmacology, introduction to anesthetic techniques including regional and general anesthesia, and perioperative patient management.

Mechanics: Students will spend two days in the first week learning through didactic sessions and simulated anesthetic scenarios with the Human Patient Simulator in the Simulation Lab. These sessions are to include airway management, anesthetic and cardiovascular pharmacology, regional and general anesthetic techniques, and pre-operative patient evaluation. The second week the students will report to the operating room at JCMC and participate in clinical anesthetic care of actual patients under the supervision of the JCMC anesthesiology staff.

Method of Instruction: One-on-one discussions and hands-on demonstrations. Reading assignments will correlate with the topics above.

Course Schedule: Students shall be expected to report to the Simulation Lab on the first day of the rotation. The time period spent each day in the lab will vary with the subject taught that day and the ability of the student to acquire the skills or understand the material. For the second week, the student will report to the operating room at JCMC and participate in patient care. The time spent in the OR will vary with the clinical caseload and the student will remain there until dismissed by the supervising anesthesiologist. There will be daily discussions on selected topics
Surgery

with the Director of the program at the end of the O.R. experience or when feasible during the daily schedule.

**Evaluation:** Shall be done by the Directors and preceptors based on the degree of skills attained and knowledge and interest displayed by the student.
Surgery

BASIC SURGICAL RESEARCH

Course Number:     SURG5001-4
                    JHQCOM

Instructor:        I. William Browder, M.D.
                    Race Kao, Ph.D.
                    David Williams, Ph.D.

Responsible Faculty:  I. William Browder, M.D. - (423) 439-6268

Duration:          4 to 8 weeks

Periods offered:   All

Distribution of student's time: Basic Research Laboratory.............................100%

Enrollment:        2 maximum

Periods Offered:   All

Prerequisites:     Junior Surgical Clerkship and permission of Dr. Browder

Initial Meeting Place: Department of Surgery

Description:       This elective is designed for the student interested in a career in general surgery. The student will receive an introduction to basic research techniques. There will be experience in designing an experimental protocol, analyzing data, and creating a scientific manuscript. It is anticipated that the student will be author/co-author on several scientific manuscripts.

Educational Objectives:  1. Introduction to the scientific method.
                         2. Design an experimental protocol.
                         3. Collect and analyze scientific data.
                         4. Introduction to the technology of surgical research.
                         5. Preparation of scientific manuscripts.

Evaluation:         Evaluation will be on daily performance using the "ETSU General Surgery and Surgical Specialty Elective Program Student Evaluation" Form.
Surgery

CARDIOVASCULAR AND THORACIC SURGERY

Course Number: SURG5001-6
BRMC

Instructor: William H. Messerschmidt, M.D.
Glenn Pennington, M.D.
Marcus Williams, M.D.

Responsible Faculty: William H. Messerschmidt, M.D. - (423) 439-6771

Duration: 4 weeks

Periods offered: All

Distribution of student's time:
- Inpatient Care........................................50%
- Outpatient Care.................................5%
- Clinical Rounds.................................25%
- Conferences/Lectures..........................20%

Enrollment/Period: 2 maximum

Prerequisites: Junior Surgical clerkship and permission of the instructor at least one month in advance.

Initial Meeting Place & Time: Student should call the resident at (423) 224-8579 to arrange meeting time & place.

Description: This elective is designed to provide a broad basic exposure to the principles of Cardiopulmonary surgery under a close tutorial arrangement. Students will perform work-up on selected hospitalized patients and will function as a member of the Cardiopulmonary surgical team. The student will scrub in surgery and participate in the post-operative care. Emphasis will be placed on pathophysiology of cardiac, circulatory and respiratory disease, using the operating room and intensive care unit as the laboratory for this clinical pathophysiological use and interpretation of catheterization data, cineangiograms, and other specialized diagnostics will be stressed.

Educational Objectives:
1. Students will acquire an in-depth knowledge of the pathophysiology of the most common cardiac lesions encountered surgically as well as medically.
2. Students will acquire an in-depth knowledge of the mechanics and physiology of cardiopulmonary disease.
3. Students will become proficient in history-taking and physical examination related to the cardiovascular system.
4. Students will become familiar with the indications for and interpretation of cardiac angiography and catheterization data.
5. Students will become familiar with the range of operative procedures available to correct common cardiac lesions.
6. Students will become familiar with the basic principles of post-operative monitoring and care of cardiac surgical patients.
Surgery

Specifically, Cardiothoracic Surgery rotation is designed to present to the student experience with patients undergoing evaluation and therapy for pulmonary and cardiac disease. The student's involvement includes: history and physical examination, evaluation of the patient at admissions, as well as during the hospital course, patient management and active participation as a member of the surgical team. Although they are primarily responsible for preoperative and postoperative care, intimate involvement in the operative procedures is an intrinsic part of the rotation. Critical is the student's understanding of the patient's condition, as well as the pathology involved. Monthly conferences include: Thoracic Surgical Conference, Adult Cardiology Conference. The students are responsible for presentation of specific cases, their history and physical examination, radiologic findings, and the discussion of possible management. He or she is expected to present the findings for faculty review, and the comments of his or her peers. The students are expected to fill out an on-call schedule for active participation in the care of the postoperative patients, as well as acute admissions for the Cardiothoracic Service.
Surgery

GENERAL SURGERY

Course Number: SURG5001-8
BRMC

Instructors: Nelson Gwaltney, M.D. Rob Blanton, M.D.
Thomas C. Greene, M.D. Michael D. Rowell, M.D.
Benjamin Scharfstein, M.D.

Responsible Faculty: Benjamin Scharfstein, M.D. - (423) 844-6625

Duration: 4 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care..........................50%
Outpatient Care...........................................25%
Clinical Rounds...........................................20%
Conferences/Lectures.................................5%

Enrollment/Period: 1 maximum

Prerequisites: Junior Surgical Clerkship; permission of instructor at least one month in advance.

Description: This elective is designed to provide broad clinical training in General Surgery under a close tutorial arrangement. Students will perform work-ups on selected hospitalized patients and will receive instruction in surgical techniques, surgical pathology, and special procedures. Office exposure to new patients and follow-up visits will also be provided.

Educational Objectives:
1. Students will sharpen skills in performing and recording history and physical examination on routine and emergent patients.
2. Students will develop ability to present succinctly to another physician the pertinent positive and negative history and physical findings on routine and emergent patients.
3. Students will broaden and deepen knowledge of pathologic anatomy and physiology insofar as it applies to those diseases commonly treated by general surgeons.
4. Students will develop proficiency in formulating diagnostic evaluation to confirm or reject those diagnoses.
5. Students will acquire an in-depth knowledge of the operative and non-operative management of the most common diseases encountered by the general surgeon.
6. Student will develop proficiency in technical skills common and useful in the day to day care of hospitalized patients.
7. Students will develop the ability to communicate effectively and professionally with patients and their families.
8. Students will acquire judgment and skill in the effective initiation of diagnostic evaluation and management of surgical patients.
9. Students will develop an ability to utilize consultants effectively.
10. Students will become familiar with variation in post-operative procedures.
Surgery

Mechanics and Methods: All senior electives in Surgery will be as preceptorships.

Course Schedule: To be assigned by class instructors.

Evaluation: Evaluation will be on daily performance.
Surgery

GENERAL SURGERY

**Course Number:** SURG5001-9
HVHMC

**Instructors:**
- Daniel Gonzalez, M.D.
- Andrew Kramer, M.D.
- John Ehrenfried, M.D.
- Robert Northrop, M.D.
- Jeff Kappa, M.D.
- Tom Brock, M.D.

**Responsible Faculty:**
Daniel Gonzalez, M.D. - (423) 245-6101

**Duration:**
4 weeks

**Periods Offered:**
All

**Distribution of student's time:**
- Inpatient Care................................................50%
- Outpatient Care................................................25%
- Clinical Rounds...............................................25%

**Enrollment/Period:**
1 maximum

**Prerequisites:**
Junior Surgical Clerkship and permission of instructor at least one month in advance.

**Description:**
1. Students will sharpen skills in performing and recording history and physical examination on routine and emergent patients.
2. Students will develop ability to present succinctly to another physician the pertinent positive and negative history and physical findings on routine and emergent patients.
3. Students will broaden and deepen knowledge of pathologic anatomy and physiology insofar as it applies to those diseases commonly treated by general surgeons.
4. Students will develop proficiency in formulating diagnostic evaluation to confirm or reject those diagnoses.
5. Students will acquire an in-depth knowledge of the operative and non-operative management of the most common diseases encountered by the general surgeon.
6. Student will develop proficiency in technical skills common and useful in the day to day care of hospitalized patients.
7. Students will develop the ability to communicate effectively and professionally with patients and their families.
8. Students will acquire judgment and skill in the effective initiation of diagnostic evaluation and management of surgical patients.
9. Students will develop an ability to utilize consultants effectively.
10. Students will become familiar with variation in post-operative procedures.

**Mechanics and Methods:**
All senior electives in Surgery will be as preceptorships.

**Course Schedule:**
To be assigned by class instructors.

**Evaluation:**
Evaluation will be on daily performance.
Surgery

GENERAL SURGERY

Course Number: SURG5001-10
JCMCH

Instructors: Surgical Attending Staff, JCMCH and Surgical Residents

Responsible Faculty: Carlos Floresguerra, M.D. - (423) 439-6771

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care........................................75%
- Outpatient Care......................................5%
- Conferences/Lectures................................10%
- Library Work......................................10%

Enrollment/Period: 3 maximum

Prerequisites: Junior Surgical Clerkship and permission of the instructor at least one month in advance.

Description: The student will be assigned as a sub-intern to one of three General Surgery Services or to a subspecialty attending surgeon or group. He will be responsible for the record of selected patients and will work directly under the surgical resident on the service or sub-specialty attending surgeon. Progress notes and orders shall be written in patient’s record and will become official when counter-signed by resident or attending. Skill in executing certain invasive procedures will be emphasized and carefully monitored. Minimal surgical technique required for assisting in major operations will be taught. Adequate knowledge of surgical diagnosis and management, both operative and non-operative, will be stressed, as well as application of a knowledge of the fundamentals of Anatomy, Physiology, Biochemistry, Microbiology, Pharmacology and Pathology. The student will present cases upon request to the staff, concisely and accurately. He will make rounds on all patients on the service with the surgical resident each morning and at other designated times with the attending surgeon. Attendance at the Surgical Grand Rounds, Morbidity and Mortality conferences, Tumor Board and GI Conference is expected. Grades will be based on Ward performance as well as oral examinations.

Mechanics and Methods: All senior electives in Surgery will be as preceptorships.

Course Schedule: To be assigned by class instructors.

Evaluation: Evaluation will be on daily performance.
Surgery

NEUROSURGERY

Course Number: SURG5001-12
JCMCH

Instructors: Steve Hamel, M.D.

Responsible Faculty: Steve Hamel, M.D. - (423) 975-2350

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care: 60%
- Outpatient Care: 25%
- Clinical Rounds: 15%

Enrollment/Period: 2 maximum

Prerequisites: Junior Neurosurgery; permission of instructor at least one month in advance.

Description: The senior elective in Neurological Surgery is offered to provide the student with an in-depth insight into the daily management of neurosurgical problems. The course revolves around the daily activities of three full-time clinical practitioners in the specialty and is a preceptor-type program. The mechanics of the course are similar to clinical clerkship. Instruction is provided on a one-to-one student to instructor basis. The student will be expected to make daily rounds beginning at 8:00 a.m. with the clinical service at the Johnson City Medical Center Hospital. Bedside training will be provided during these rounds as well as during examination and evaluation of both inpatient and outpatient consultations. The student will be expected to perform history and physical examinations including complete neurological evaluations of all patients assigned to him during his rotation. The student will participate in the performance of special radiographic procedures and will be expected to assist in the operating theater. Attendance at weekly brain cutting conferences at the Veterans Administration Medical Center are encouraged. No formal examination will be administered and the student's performance will be evaluated on a day-to-day basis as well as during a conference with the instructor at the end of the rotation.

Educational Objectives:
1. The student will acquire skill in obtaining a history and physical examination of the neurosurgically ill or injured patient with emphasis on the more common neurosurgical problems.
2. The student will become familiar with the indications for, techniques of, and interpretation of specialized forms of neurosurgical diagnosis and monitoring.
3. The student will become versed in the basic principles of operative and non-operative care of the neurosurgical patient.
4. The student will learn the indication of neurosurgical consultation.
5. The student will acquire proficiency in the emergent diagnosis and management of the neurosurgically injured patient.
6. The student will become familiar with the basic principles of post-operative care of the neurosurgical patient.
**Surgery**

*Mechanics and Methods:* All senior electives in Surgery will be as preceptorships.

*Course Schedule:* To be assigned by class instructors.

*Evaluation:* Evaluation will be on daily performance.
**Surgery**

**ORTHOPEDIC SURGERY**

**Course Number:** SURG5001-14
JCMCH

**Instructors:**
- W.R. Beaver, M.D.
- John Holbrook, M.D.
- Charles Barnes, M.D.
- Tom Huddleston, M.D.
- James Goss, M.D.
- Glenn Trent, M.D.

**Responsible Faculty:** W.R. Beaver, M.D. - (423) 979-3330

**Contact:** Connie Thomas – (423) 979-3330

**Duration:** 4 weeks

**Perioids Offered:** All

**Distribution of student's time:**
- Inpatient Care..................................................20%
- Outpatient Care..............................................80%

**Enrollment/Period:** 2 maximum

**Prerequisites:** Junior Surgical Clerkship; permission of instructor at least one month in advance.

**Description:** This elective is designed to provide a general overview of the specialty of Orthopedic Surgery, under a close tutorial arrangement. The elective is designed for students who plan to pursue more advanced training in Orthopedic Surgery or for those students who plan to enter other specialties in which a more detailed exposure to Orthopedic Surgery might prove useful such as Family Medicine, General Surgery, or Pediatrics. Emphasis will be placed on fracture management.

**Educational Objectives:**
1. Students will become proficient in the skills of Orthopedic history and physical examination.
2. Students will become familiar with the materials and tools of the Orthopedic surgeon and with particular emphasis on splinting, plaster casting and traction techniques.
3. Students acquire an understanding of the pathophysiology and management of the more common fractures and soft tissue injuries.
4. Students will acquire skill in the interpretation of bone x-rays with particular emphasis on the recognition of fractures.
5. Students will become familiar with the methods of diagnosis and principles of therapy of the most common diseases affecting the musculoskeletal system.
6. Students will learn about the back examination, and exam of the extremities.
7. Students will learn about various syndromes of interest to the orthopedic field such as the low-back syndrome, the over-use syndrome, etc.
Course Number: SURG5001-15
JCMCH

Instructors: Marc Aiken, M.D. and Watauga Orthopaedics group

Responsible Faculty: Marc Aiken, M.D. - (423) 282-9011

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care: 20%
- Outpatient Care: 60%
- Clinical Rounds: 20%

Enrollment/Period: 1 maximum

Prerequisites: Junior Surgical Clerkship and permission of the instructor at least one month in advance.

Description: This elective is designed to provide a general overview of the specialty of Orthopedic Surgery, under a close tutorial arrangement. The elective is designed for students who plan to pursue more advanced training in Orthopedic Surgery or for those students who plan to enter other specialties in which a more detailed exposure to Orthopedic Surgery might prove useful such as Family Medicine, General Surgery, or Pediatrics. Emphasis will be placed on fracture management.

Educational Objectives:
1. Students will become proficient in the skills of Orthopedic history and physical examination.
2. Students will become familiar with the materials and tools of the Orthopedic surgeon and with particular emphasis on splinting, plaster casting and traction techniques.
3. Students acquire an understanding of the pathophysiology and management of the more common fractures and soft tissue injuries.
4. Students will acquire skill in the interpretation of bone x-rays with particular emphasis on the recognition of fractures.
5. Students will become familiar with the methods of diagnosis and principles of therapy of the most common diseases affecting the musculoskeletal system.
6. Students will learn about the back examination, and exam of the extremities.
7. Students will learn about various syndromes of interest to the orthopedic field such as the low-back syndrome, the over-use syndrome, etc.
Surgery

ORTHOPEDIC SURGERY

Course Number: SURG5001-17
VAMC

Instructors: Judson McGowan, M.D.

Responsible Faculty: Judson McGowan, M.D. - (423) 926-1171, Ext. 7358

Duration: 4 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care ........................................40%
Outpatient Care ............................................40%
Clinical Rounds ...........................................20%

Enrollment/Period: 2 maximum

Prerequisites: Junior Surgical Clerkship and permission of the instructor at least one month in advance.

Description: This elective is designed to provide a general overview of the specialty of Orthopedic Surgery, under a close tutorial arrangement. The elective is designed for students who plan to pursue more advanced training in Orthopedic Surgery or for those students who plan to enter other specialties in which a more detailed exposure to Orthopedic Surgery might prove useful such as Family Medicine, General Surgery, or Pediatrics. Emphasis will be placed on fracture management.

Educational Objectives: 1. Students will become proficient in the skills of Orthopedic history and physical examination.
2. Students will become familiar with the materials and tools of the Orthopedic surgeon and with particular emphasis on splinting, plaster casting and traction techniques.
3. Students acquire an understanding of the pathophysiology and management of the more common fractures and soft tissue injuries.
4. Students will acquire skill in the interpretation of bone x-rays with particular emphasis on the recognition of fractures.
5. Students will become familiar with the methods of diagnosis and principles of therapy of the most common diseases affecting the musculoskeletal system.
6. Students will learn about the back examination, and exam of the extremities.
7. Students will learn about various syndromes of interest to the orthopedic field such as the low-back syndrome, the over-use syndrome, etc.
Surgery

**OTOLARYNGOLOGY**

*Course Number:* SURG5001-18  
VAMC, JCMCH

*Instructors:* Louis A. Modica, M.D.

*Responsible Faculty:* Louis A. Modica, M.D. - (423) 926-1171, Ext 7172

*Duration:* 2-4 weeks

*Periods Offered:* All

*Distribution of student's time:*  
- Inpatient Care ..............................................15%
- Outpatient Care ...........................................70%
- Clinical Rounds ..........................................15%

*Enrollment/Period:* 1 maximum

*Prerequisites:* Junior Surgical Clerkship and permission of the instructor at least one month in advance.

*Description:* This elective is designed to acquaint the student with the clinical discipline of Otolaryngology-Head and Neck Surgery, under a close tutorial arrangement. Students will perform work-ups on selected hospitalized patients. They will gain in-depth experience in the examination of patients with ENT problems. They also will observe and assist in surgery, and will become acquainted with special techniques used in Otolaryngology including audiology, and impedance audiometry.

*Objectives:*  
1. Students will acquire skill in physical examination of the ear and upper respiratory tract utilizing commonly available instrumentation and particular emphasis on indirect mirror examination of the upper respiratory tract.  
2. Students will acquire an in-depth knowledge of physiology of hearing and the alterations produced by disease, becoming familiar with the techniques and interpretation of basic audiologic examination.  
3. Students will become familiar with the basic pathophysiology, diagnosis, medical management and operative management of the most common encountered in the practice of Otolaryngology.

*Mechanics and Methods:* All Senior Electives in Surgery will be as preceptorships.

*Course Schedule:* To be assigned by class instructors.

*Evaluation:* Evaluation will be on daily performance.
Surgery

PODIATRY (Foot Disorders)

Course Number: SURG5001-21
VAMC

Instructors: Stephen Dale, D.P.M.

Responsible Faculty: Stephen Dale, D.P.M. - (423) 926-1171, Ext. 7273

Duration: 4 weeks

Periods Offered: All

Distribution of student's time:

- Inpatient Care .................................................. 40%
- Outpatient Care ............................................... 40%
- Clinical Rounds ................................................ 20%

Enrollment/Period: 1 maximum

Prerequisites: Junior Surgical Clerkship and permission of the instructor at least one month in advance.

Description: This elective is designed to provide a general overview of the specialty of Podiatry under a close tutorial arrangement. The elective is designed to cover the basic subject matter of Podiatry. The elective should be helpful for the student who will go into Family Medicine, General Surgery, or Pediatrics. Emphasis will be placed on the evaluation and management of disorders of the foot.

Educational Objectives:

1. Students will be proficient in the skills of the history and physical examination of the patient with the foot disorder.
2. Students will become familiar with the materials and tools of the podiatrist with emphasis on foot care and surgical techniques.
3. Students will acquire an understanding of the pathophysiology and the management of the common fractures and soft tissue disorders of the foot.
4. Students will acquire skill in the interpretation of x-rays of the foot.
5. Students will become familiar with the methods of diagnosis and principles of therapy of the most common diseases affecting the foot.

Evaluation: Evaluation will be on daily performance.
Surgery

PRIMARY CARE SPORTS MEDICINE

Course Number: SPMD5001-22
Watauga Orthopaedics Clinic

Instructors: Todd A. Fowler, M.D.

Responsible Faculty: Todd A. Fowler, M.D. - (423) 282-9011

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
- Outpatient Care ........................................ 70%
- Training Room .......................................... 20%
- Conference/Lectures ................................. 10%

Enrollment/Period: 1 maximum

Description: This elective is designed to provide insight into Sports Medicine through the outpatient, primary care perspective. This rotation could have been designed as non-operative orthopedics. It is designed for those interested in primary care who might be contemplating a fellowship in Sports Medicine.

Objectives:
1. Become proficient in orthopaedic history taking and physical exam.
3. Acquire an understanding concerning injuries which need an orthopaedic referral.
4. Become familiar with athletic trainers and what they can do. You will learn to work closely with them in the training room environment.

Evaluation: Direct observation and supervision. No written examination will be given.
Course Number: SURG5001-25
HVHMC

Instructors: George Testerman, M.D.
Tiffany Lasky, M.D.
Kimberly Hendershot, M.D.
Corydon Siffring, M.D.

Responsible Faculty: Tiffany Lasky, M.D. – (423) 426-3952

Duration: 2-4 weeks

Periods Offered: All

Distribution of student's time: Inpatient Care.........................................................100%

Enrollment/Period: 1 maximum

Prerequisites: Junior Surgical Clerkship and permission of instructor at least one month in advance. The student will need to obtain the Trauma and Surgical Critical Care Reading List, along with the Trauma Manual and the Trauma handout prior to the start of the rotation.

Initial Meeting Specifics: The student will contact the HVMC Trauma/Surgical Care Service at (423) 224-5825 one week in advance to confirm first day location, meeting place, time and point of contact.

Description: This elective is designed to provide an in-depth exposure to the management of Trauma/Surgical Critical Care patients. Emphasis will be placed on the general approach to injured patients rather than treatment of specific injuries. Students will assume clinical responsibility for selected patients admitted to the Trauma/Surgical Intensive Care Unit at the HVMC. The elective is suitable not only for students planning to enter a surgical career but also particularly for students planning a career in primary care. There is close attending contact and supervision.

Educational Objectives:
1. Students will acquire skill in initial evaluation and resuscitation of injured patients.
2. Students will acquire skill in acute treatment of immediate life threatening injuries and critical care.
3. Students will learn the general principles applicable to evaluation and care of all injured patients.
4. Students will acquire an in-depth knowledge of the pathophysiology and treatment of specific injuries encountered during their elective period.
5. Hemodynamic monitoring: especially the use of arterial line, CVP and Swan Ganz catheters and the interpretation of various hemodynamic changes associated with abnormal clinical conditions.
6. Monitoring of ventilation: interpretation of blood gases, use of volume respirator; PEEP, all low IV strategies, etc.
7. Monitoring of renal, liver, and GI functions.
8. Concept of nutritional and metabolic failure of trauma/surgical critical care
patients, the need of nutritional support based on metabolic demands.

9. Concept and management of multisystem organ failure.

**Mechanics and Methods:**

Students will function as an integral part of the trauma/surgical critical care team, and expected to round with the team as well as be on call with the team as identified by the instructor(s) and/or resident(s). The student should be prepared to present their assigned patients, or other patients as indicated by the instructor(s) and/or primary resident(s).

Students will be assigned Trauma/Surgical Critical Care topics by the instructor(s) and/or resident(s) to be covered in brief lectures once or twice each week. The lectures will be presented at rounds to the student and resident staff in order to facilitate learning of new Trauma/Surgical Critical Care concepts.

Students may be required to take a trauma pre-test, administered during the first week of rotation and an ATLS post-test, give the last week of the rotation.

Students are required to attend routinely scheduled Surgery Department conferences and clinics, i.e., VAS/ONCX, Grand Rounds, M&M, etc.

**All senior electives in surgery will be as preceptorships.**

**Evaluation:**

Evaluation will be based upon clinical performance at the level of honors, pass, or fail. Attention will be paid to the core competencies of patient care, medical knowledge, practice-based learning improvement, interpersonal communication skills, and professionalism.
Surgery

TRAUMA/SURGICAL CRITICAL CARE MEDICINE

Course Number: SURG5001-26
JCMCH

Instructors: Diane Cobble, M.D.
Julie Dunn, M.D.

Responsible Faculty: Julie Dunn, M.D. - (423) 439-8837

Duration: 2-4 weeks

Periods Offered: All

Distribution of student's time:
Inpatient Care………………………………………..100%

Enrollment/Period: 2 maximum

Prerequisites: Junior Surgical Clerkship and permission of instructor at least one month in advance. The student will need to obtain the Trauma and Surgical Critical Care Reading List, along with the Trauma Manual and the Trauma handout prior to the start of the rotation.

Initial Meeting Specifics: The student will contact the HVMC Trauma/Surgical Care Service at (423) 224-5825 one week in advance to confirm first day location meeting place, time and point of contact.

Description: This elective is designed to provide an in-depth exposure to the management of Trauma/Surgical Critical Care patients. Emphasis will be placed on the general approach to injured patients rather than treatment of specific injuries. Students will assume clinical responsibility for selected patients admitted to the Trauma/Surgical Intensive Care Unit at the HVMC. The elective is suitable not only for students planning to enter a surgical career but also particularly for students planning a career in primary care. There is close attending contact and supervision.

Educational Objectives:

1. Students will acquire skill in initial evaluation and resuscitation of injured patients.
2. Students will acquire skill in acute treatment of immediate life threatening injuries and critical care.
3. Students will learn the general principles applicable to evaluation and care of all injured patients.
4. Students will acquire an in-depth knowledge of the pathophysiology and treatment of specific injuries encountered during their elective period.
5. Hemodynamic monitoring: especially the use of arterial line, CVP and Swan Ganz catheters and the interpretation of various hemodynamic changes associated with abnormal clinical conditions.
6. Monitoring of ventilation: interpretation of blood gases, use of volume respirator; PEEP, all low IV strategies, etc.
7. Monitoring of renal, liver, and GI functions.
8. Concept of nutritional and metabolic failure of trauma/surgical critical care patients, the need of nutritional support based on metabolic demands.
9. Concept and management of multisystem organ failure.
**Mechanics and Methods:**

Students will function as an integral part of the trauma/surgical critical care team, and expected to round with the team as well as be on call with the team as identified by the instructor(s) and/or resident(s). The student should be prepared to present their assigned patients, or other patients as indicated by the instructor(s) and/or primary resident(s).

Students will be assigned Trauma/Surgical Critical Care topics by the instructor(s) and/or resident(s) to be covered in brief lectures once or twice each week. The lectures will be presented at rounds to the student and resident staff in order to facilitate learning of new Trauma/Surgical Critical Care concepts.

Students may be required to take a trauma pre-test, administered during the first week of rotation and an ATLS post-test, given the last week of the rotation.

Students are required to attend routinely scheduled Surgery Department conferences and clinics, i.e., VAS/ONCX, Grand Rounds, M&M, etc.

**All senior electives in surgery will be as preceptorships.**

**Evaluation:**

Evaluation will be based upon clinical performance at the level of honors, pass, or fail. Attention will be paid to the core competencies of patient care, medical knowledge, practice-bases learning improvement, interpersonal communication skills, and professionalism.
Surgery

UROLOGY

Course Number: SURG5001-29
JCMCH

Instructors: Johnson City Urological Clinic
Dr. Beaird
Dr. Olsen
Dr. Tongco

Responsible Faculty: Grant Taylor, M.D.

Contact: Joy Marshall, Office Mgr., (423)926-6114; Fax: (423)434-0278

Duration: 2 weeks

Periods Offered: All

Distribution of student's time:
- Inpatient Care ........................................30%
- Outpatient Care ....................................60%
- Clinical Rounds ....................................10%

Enrollment/Period: 1 maximum

Prerequisites: Junior Surgical Clerkship and permission of the instructor at least one month in advance.

Description: This experience is designed to provide the student with an in-depth exposure to urologic diagnosis and management and affords the student a chance to study a few patients in real depth. The student will assume clinical responsibility for selected patients admitted to the urology service at the V.A. Hospital, under close supervision of the staff urologists (or other hospitals as designated).

Educational Objective:
1. Students will broaden and deepen knowledge of the anatomy, physiology and embryology of the most commonly encountered urologic diseases.
2. Students will develop proficiency in urologic history and physical examination.
3. Students will develop proficiency in pursuing and interpreting urologic diagnostic evaluation.
4. Students will acquire a working knowledge of the therapeutic options available to treat the most common forms of urologic disease.
5. Students will acquire proficiency in the techniques of urethral catheterization.

Mechanics and Methods: All Senior Electives in Surgery will be as preceptorships.

Course Schedule: To be assigned by class instructors.

Evaluation: Evaluation will be on daily performance.
**Course Number:** SURG5001-30

**Instructors:** John Kolski, M.D.

**Responsible Faculty:** John Kolski, M.D. - (423) 795-0130

**Duration:** 2 weeks

**Periods Offered:** All

**Initial Meeting Place**

Urology Clinic

**Distribution of student's time:**
- Inpatient Care.............................................30%
- Outpatient Care..........................................60%
- Clinical Rounds..........................................10%

**Enrollment/Period:** 1 maximum

**Prerequisites:** Junior Surgical Clerkship and permission of the instructor at least one month in advance.

**Description:** This experience is designed to provide the student with an in-depth exposure to urologic diagnosis and management and affords the student a chance to study a few patients in real depth. The student will assume clinical responsibility for selected patients admitted to the urology service at the V.A. Hospital, under close supervision of the staff urologists.

**Educational Objective:**
1. Students will broaden and deepen knowledge of the anatomy, physiology and embryology of the most commonly encountered urologic diseases.
2. Students will develop proficiency in urologic history and physical examination.
3. Students will develop proficiency in pursuing and interpreting urologic diagnostic evaluation.
4. Students will acquire a working knowledge of the therapeutic options available to treat the most common forms of urologic disease.
5. Students will acquire proficiency in the techniques of urethral catheterization.

**Mechanics and Methods:** All Senior Electives in Surgery will be as preceptorships.

**Course Schedule:** To be assigned by class instructors.

**Evaluation:** Evaluation will be on daily performance.
APPENDIX

Listing of 2-Week Electives*

Name of Elective
Advanced Medical Interviewing Negotiation Skills
Advanced Neurobiology
Advanced Physical Diagnosis
Anesthesiology – JCMCH
Anesthesiology – VAMC
Cardiology – JCMCH
Clinical Genetics
Clinical Microbiology
Clinical Radiation Oncology
Computerized Axial Tomography and Cross Sectional Anatomy
Emergency Medicine – BRMC, HVHMC, JCMCH
Fine Needle Aspiration Biopsy
Home Health Hospice
Infectious Disease
Introduction to Clinical Radiology - VAMC
Neurology
Orthopedic Anatomy
Otolaryngology
Pediatric Cardiology
Pediatric Hematology/Oncology
Pediatric Renal Elective
Primary Care Sports Medicine
Research in Family Medicine
Senior Family Medicine
Special Diagnostic or Therapeutic Radiology - BRMC, HVHMC, JCMCH
Statistics and Research Design in the Medical Sciences
Surgical Anatomy
Trauma/Surgical Critical Care Medicine - HVHMC, JCMCH
Urology

*Note: Many of these are offered for more than 2 weeks. Please check individual elective description.