

**University of Virginia  
Internal Medicine Residency Program**

**CLINICAL INVESTIGATOR TRACK**

**Overview:** The Clinical Investigator track is designed for individuals interested in a career in academic medicine focused on general internal medicine or one of the internal medicine subspecialties. In addition to meeting the basic requirements for a three-year training program in internal medicine with a core base of rotations on internal medicine and subspecialty wards and clinics, the program provides the opportunity to earn a Masters Degree in either Medical Informatics\* or Clinical Investigation from the Department of Public Health Sciences at the University of Virginia School of Medicine. Ultimately the goal of this program is to develop academic physicians with well-rounded backgrounds in clinical medicine who are uniquely well suited for careers in clinical investigation.

**First Year:** 9 Ward Months, 1 Emergency Department Month, 2 Ambulatory Months

**Second Year:**

4 Ward Months: Block 1(7/1-7/31), Block 2 (8/1-9/4), Block 6 (12/12-01/08), and Block 12 (5/29-6/30)

1 Ambulatory Month: Block 11 (5/1-5/28)

7 Months for Research and Master's Degree coursework (see attached schedule)

- Masters classes during Blocks 3,4,5 and Blocks 7,8,9,10.  
Residents will be protected from contingency during these blocks.  
Please refer to semester course outline for details on the clinical investigator concentration.  
\* Although similar in structure and course load, the medical informatics concentration substitutes specialized second semester coursework in medical/clinical informatics for some of the courses in the clinical investigator concentration.
- Fall Semester 8/30-12/6 – 14 credit hours of coursework.  
Residents will receive 3 credit hours for supervised research.
- Spring Semester 1/17-5/1 – 9 credit hours of coursework.  
Residents will receive 5 credit hours for completion of thesis.

**Third Year:** 7 Ward Months, 4 Ambulatory Months, 1 Research Month - Complete and defend thesis

**Ambulatory Months:** The RRC guidelines require that a minimum of 33% of the residency training be in the ambulatory care setting. Continuity clinics consisting of ½ day per week through out the three year residency is equivalent to 10%, and 1-month block rotations are equivalent to 3%. Examples of acceptable ambulatory rotations given by the RRC's Program Requirements for Residency Education in Internal Medicine include general medicine continuity clinics, subspecialty clinics, ambulatory block rotations, physicians' offices, managed health-care systems, emergency medicine systems, walk-in clinics, neighborhood health clinics, and home-care clinics.

**Ward Months:** Residents act as the primary caregivers for patients admitted to the medical wards. On average, residents will work up to 80 hours/week and will have 1-2 weeks of night float per ward month. By completing the ward months throughout the three-year residency as shown above, the residents enrolled in this program will have the same inpatient experience as all other categorical residents.

**Continuity Clinic:** All residents will have a continuity clinic ½ day per week throughout their three year residency.

**Application Process:** The application deadline for PGY-1 Medicine residents is February 1, and on average 2-3 residents will be accepted into the program each year.

- The application process requires that residents identify a faculty mentor and propose a research study.
- Projects should be based in prospective clinical investigation and should be geared toward Master's level work.
- The resident and mentor should develop a well delineated plan of supervised data analysis, close follow-up and periodic evaluation.
- The experience should culminate in the defense of a research thesis and composition of a publishable manuscript.
- Required Application Documents include:
  1. Curriculum Vitae
  2. Department of Medicine Resident Research Proposal
  3. Personal Statement describing their career goals and motivation for applying to the Clinical Investigator Track

A committee of Faculty from the Department of Medicine and the Department of Public Health Science will select 2-3 residents per year to matriculate into the program. Resident selection will be based on resident career goals, research experience, and the strength of the proposed research project. As a formality, accepted residents will then need to complete the University of Virginia Graduate School of Arts and Sciences (GSAS) application by March 1.

## **Clinical Investigation Track Requirements**

### **FALL SEMESTER 8/30 – 12/6 (17 credit hours)**

**Required Core Courses** (credit hours in parentheses) Introduction to Biostatistics (HES 700) (3)  
Fundamentals of Epidemiology (HES 701) (3)  
Database Design & Implementation (HES 745) (3)  
Introduction to SAS (HES 717) (1)  
The Practice of Health Evaluation Sciences (HES 719) (1)

**Core Electives** (choose 2 ) Health Care Informatics (HES 707) (3)  
OR  
Health Care Policy & Mgmt (HES 710) (3)  
OR  
Health Care Economics (PHS 709) (3)  
OR  
Supervised Research (PHS 719)\* (3)

Note: \*Internal medicine residents will be expected to complete a formal research project and therefore should choose PHS 719 as one of their two core electives.

### **SPRING SEMESTER 1/17-5/1 (14 credits hours)**

**Required Core Courses** Introduction to Biostatistics II (HES 751) (3)  
Health Technology & Outcomes Evaluation (HES 712) (3)  
  
Clinical Trials Methodology (HES 731) (3)  
OR Applied Epidemiologic Methods (HES 702) (3)  
  
Thesis (HES 891/892) (5) \*see thesis requirements

## DEPARTMENTAL THESIS GUIDELINES

These are PHS internal thesis guidelines only. Strict [physical standards](http://artsandsciences.virginia.edu/grad/thesis.html) imposed by the Graduate School of Arts and Sciences (GSAS) also apply (<http://artsandsciences.virginia.edu/grad/thesis.html>).

### PHS Internal Guidelines for the Thesis

The purpose of the thesis is to give students the opportunity to apply research principles and methods to a specific issue or problem in their chosen focus area. To do so, the student should select a relevant and feasible topic, develop a research question and study plan, analyze a dataset to address the topic, and write a publishable manuscript.

An advisor for the project should be selected before or as soon as the student has identified a workable area of interest. Residents should select an advisor from the Department of Medicine and may also select adjunct faculty advisors from the Department of Public Health Sciences. A list of potential Department of Medicine advisors and a catalogue of research project ideas will be maintained in the Internal Medicine Chief Resident's Office. A list of adjunct Faculty advisors from the Department of Public Health Sciences is provided in each new resident's orientation packet; additional copies may be obtained from the Program Coordinator.

Residents should first consult with their advisors to determine an appropriate thesis topic. Once the topic is identified, the resident and his or her advisor should work together to identify one or two additional readers. Each resident should submit his or her thesis topic, a brief (~1 page) description of the project, the names of the faculty advisor and readers, and a rough timeline for completion to the Program Coordinator at the beginning of the semester in which the resident takes the topical research (thesis) credits. This information will then be reviewed and approved by the Program Director.

The format for writing the thesis should follow the Uniform Requirements for Manuscripts Submitted to Biomedical Journals developed by the International Committee of Medical Journal Editors (New England Journal of Medicine 1997; 336:309-315). Theses should also meet the physical standards set forth by the Graduate School of Arts and Sciences.

Sufficient time should be allowed for the following: a thorough first review of the thesis by the advisor and readers, revision time needed by the student, and a second review by the advisor and readers prior to submission. Below is a suggested timeline:

1. *Four weeks prior to submission*\*: completed initial draft of thesis given to advisor and readers and appointments made with each faculty member to discuss the work (usually 1-2 weeks after thesis is distributed); then, upon completion of any necessary revisions:
2. *Two weeks prior to submission*\*: final draft distributed to advisor and readers; final comments and requests for revisions given to the student within one week; then, upon completion of any necessary revisions:
3. *2-3 days prior to submission*\*: finished thesis distributed to advisor and readers for final approval and signatures.

At the end of the semester in which students plan to graduate, all students must present their work to the PHS. Presentation Days are held every spring, fall, and in the summer as necessary.

\* Consult Graduate School calendar for appropriate date

**Please note: Good ongoing communication with advisors and readers throughout all stages of the thesis work is important in order to avoid delays, deal efficiently with unanticipated setbacks, and generally ensure that the thesis is completed on schedule.**