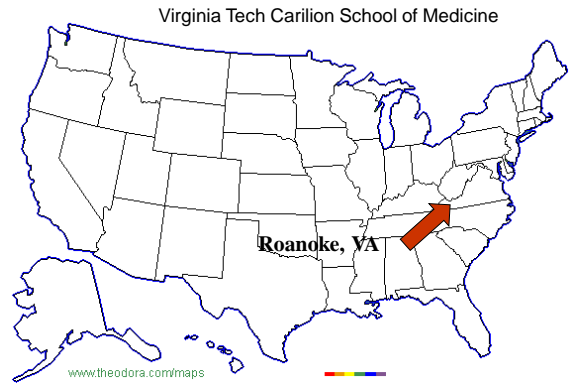




VTC Virginia Tech Carilion School of Medicine and Research Institute



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## VTCSOM Timeline

- Public announcement (Jan 2007)
- Curriculum Advisory Committee
- New Mexico consultant - PBL
- Visit to University of Missouri-Columbia
- Visit to New Mexico
- Draft Curriculum Developed
- Board Approval July 2007
- Visit to Cleveland Clinic

## VTCSOM

- Founding Dean Hired (Jan 2008)
  - Cynda A. Johnson, MD, MBA
- Associate Dean for Medical Education (April 2008)
- Associate Deans (2008-09)
- LCME Curriculum Committee formed
- VTCSOM Goals and Objectives
- Change to four year program
- Altered model –Normal vs Abnormal
- Educational Value Domains
- Faculty Recruited

## MISSION

Virginia Tech Carilion School of Medicine...  
Educating physician thought leaders through:  
Inquiry...  
Research...  
Discovery...



## Exciting Features

- A NEWLY accredited, four-year Allopathic medical school (Private)
  - LCME Preliminary (June 2009)
  - SHEV Approval (April 2009)
  - SACS (Pending)



## Exciting Features

- A unique partnership between a public research university (Virginia Tech) and a private healthcare provider (Carilion Clinic)

### Resources

- \$59M building (Commonwealth of VA)
- \$35M (each) startup
- \$ 2.3M (each) annual operations
- Indirect costs, Practice Plan, \$ 40K tuition, Philanthropy



## Exciting Features

- A unique partnership between a public research university (Virginia Tech) and a private healthcare provider (Carilion Clinic)
- Faculty Appointed (372)
  - Virginia Tech Carilion Primary (12)
  - Carilion Clinic (241)
  - Virginia Tech (23)
  - Jefferson College of Health Sciences (Carilion) (9)
  - Private Practice, Community (87)



## Exciting Features

- Small class size (42 students) + small group learning environment
- VTCSOM graduates will be :
  - Life-long learners that will utilize research in their everyday practice of medicine.
  - Physician thought leaders that will champion health related causes in their communities and beyond.



## Exciting Features

- Innovative curriculum
  - Basic Sciences
  - Clinical Sciences
  - Research
  - Interprofessionalism
- Superb clinical facilities and environment at Carilion Clinic
  - 500 physicians
  - All specialties and subspecialties of medicine
  - 12 residency and fellowship programs

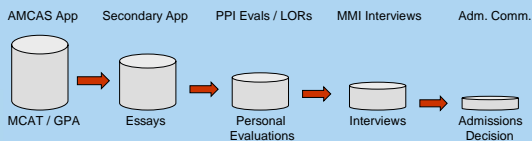


## Exciting Features

- Opportunities for combined degrees (MPH, MS)
- Purpose-built Facility – Designed for medical education and research (\$59M bond package)

## ADMISSIONS

## Admissions Selectivity



What VTC is looking for in student's application to make it to the next step:

Capability for success in medical school	A good fit for VTC's mission: Thought Leaders + Interprofessionalism	Teamwork / Ethics Communications Skills / Professionalism	A good fit for VTC's culture	Best Academic Performers
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## Interviews

- Multiple Mini-Interview
- Series of stations/scenarios (8-10)
- Traditional station

## Admissions 42 Slots

Class	App	MMI	MCAT	GPA
2014	1654	218	30-42	3.2-3.8
			x=33	x=3.47
12 Female / 30Male: Age 22-32				
2015	2743	~240	>30	

## CURRICULUM

## Value Domains

**Basic Sciences:** small groups (7 students), patient case based, organ systems

**Clinical Sciences:** clinical skills, early patient exposure

**Research:** in-depth experience, individual project

**Interprofessionalism:** VTC is the only medical school in the country to weave this throughout the entire 4 years of school.

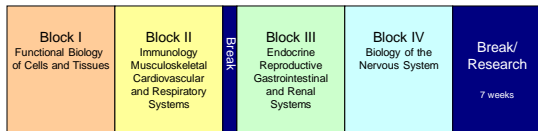


## Basic Sciences

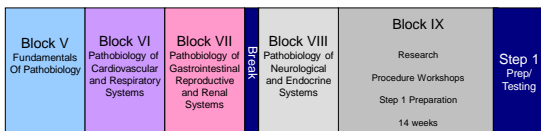
- Problem-Based Learning Hybrid Model
- Patient Cases (3 sessions / Week)
- Lectures/Labs
- Design Teams (Basic Scientists & Clinicians)
- Portable Ultrasound, Imaging, Alternative Anatomy Exercises
- Electronic Delivery including Assessment

## Basic Sciences

Year One (8 weeks + 1 week exams + 1 week special studies)



Year Two (6 weeks + 1 week exams + 1 week special studies)



## Weekly Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8-9	Lecture	Lecture	Lecture	Lecture	Patient Centered Learning Case
9-10	Lecture	Lecture	Patient Centered Learning Case	Lecture	
10-11	Patient Centered Learning Case <i>Discussions: process Learning Objectives</i>	Lab		Presentations Application Learning Objectives	Lab
11-12			Patient Wrap-up		
12-1	Lunch	Lunch	Lunch	Lunch	Lunch
1-2	Research	Unscheduled	Research	Unscheduled	Research
2-3	Interprofessionalism		Clinical Sciences		Clinical Sciences
3-4					
4-5					



At around 2:00 PM, Mr. Larry Tyler was observed by a neighbor to be walking unsteadily towards his car in his apartment building's parking garage. The neighbor was looking for a parking space and was following Mr. Tyler at a discrete distance in his car when Mr. Tyler first sat down, and then laid down on the pavement (did not fall). The neighbor quickly stopped his car and ran over to Mr. Tyler who appeared unconscious. However, he was able to be aroused and complained about feeling very dizzy. He appeared disoriented and did not seem to know where he was. He had no slurred speech however. The neighbor got him into his car and drove him to the Emergency Department (ED) at the local hospital.



## Clinical Sciences

- Standardized Patients
- 16 OSCE rooms
- White Coat Curriculum
  - “Into Your White Coat”
  - Ceremony in Block II
- Longitudinal Ambulatory Care Experience (LACE)
  - 2 Afternoons / Block
  - Begins in Block II

# Clinical Sciences

Year One (8 weeks + 1 week exams + 1 week special studies)

<b>Block I</b> Patient Centered Interviewing Introduction Physical Exam	<b>Block II</b> Patient Centered Interviewing Pediatric Development LACE Physical Exam Cardiopulmonary	<b>Block III</b> Patient Centered Interviewing Professionalism Cultural Issues Abdominal Exam Male/Female GU LACE	<b>Block IV</b> Patient Centered Interviewing Communication Skills Geriatric Patient Neurological Exam LACE	<b>Break/Research</b> 7 weeks
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Year Two (6 weeks + 1 week exams + 1 week special studies)

<b>Block V</b> Healthcare Systems Patient Presentations Healer's Art LACE	<b>Block VI</b> Humanities Patient Presentations LACE Cardiopulmonary Exam	<b>Block VII</b> Humanities Patient Presentations LACE Abd Exam Male/Female GU	<b>Block VIII</b> Psychobiology Substance Abuse Patient Presentations LACE Procedure Workshops	<b>Block IX</b> Research Procedure Workshops Step 1 Preparation 14 weeks	<b>Step 1 Prep/Testing</b>
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# Research

## Guiding Principles

- Focus on learning and applying a **process** rather than producing a particular research **product**.
- A universal requirement of the research project is that it be **'hypothesis-driven'**, yet the area of the research is **'interest-driven'**.
- The universal goal is to produce graduates with enhanced research **skills** and **abilities**.
- While a few may go on to become physician-scientists, most will be **physician-researchers** capable of making significant contributions in the emergent frontiers of medicine and skilled at using research methods in their practice of medicine.

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## Essential Features

- Scheduled Instructional Time:** Three hours each week devoted to research instruction; one hour each week for 'Research Live' presentations (Phase-1).
- Defined Curriculum:** Nineteen core competencies (scientific method, medical literature, clinical research, biostatistics, epidemiology, research methods, law, ethics, regulation, scientific writing, etc).
- Reserved Project Time:** Phase-2 has large blocks of time reserved for research, elective and interprofessionalism project work.

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# Research

Year One (8 weeks + 1 week exams + 1 week special studies)

<b>Block I</b> Fundamentals Foundations of Research Research Principles Scientific Method Research Live	<b>Block II</b> Research Tools Biostatistics Epidemiology Research Live	<b>Block III</b> Biostatistics Epidemiology Research Design Research Live	<b>Block IV</b> Manuscript Prep Grant Writing Research Live Mentor/Project Selection	<b>Break/Research</b> 7 weeks
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Year Two (6 weeks + 1 week exams + 1 week special studies)

<b>Block V</b> Individual Applied Research	<b>Block VI</b> Individual Applied Research	<b>Block VII</b> Individual Applied Research	<b>Block VIII</b> Individual Applied Research	<b>Block IX</b> Research Procedure Workshops Step 1 Preparation 14 weeks	<b>Step 1 Prep/Testing</b>
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# Research Committee

- Mentor
- At least one other Faculty member (project specific)
- LACE Preceptor

## Interprofessionalism

- Interprofessional Teams – Nursing, PA, Allied Health Students (JCHS)
- Leadership, teambuilding, conflict resolution, role identification in healthcare
- Bioethics
- Humanities
- Community Service-Learning Project

## Interprofessionalism

Year One (8 weeks + 1 week exams + 1 week special studies)

<b>Block I</b> Interprofessional Leadership Team Action Group Skills Clinic	<b>Block II</b> Interprofessional Leadership Team Action Group Skills Clinic	<b>Block III</b> Service Learning Project	<b>Block IV</b> Health Systems Dynamics	<b>Break/Research</b> 7 weeks
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Year Two (6 weeks + 1 week exams + 1 week special studies)

<b>Block V</b> Interprofessional On site Experiences	<b>Block VI</b> Bioethics	<b>Block VII</b> Bioethics	<b>Block VIII</b> Humanities	<b>Block IX</b> Research Procedure Workshops Step 1 Preparation 14 weeks	<b>Step 1 Prep/Testing</b>
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## Years 03/04

Year Three

<b>Block X</b> Internal Medicine, Surgery, Family Medicine/ Geriatrics, Research and Interprofessionalism 24 weeks	<b>Block X</b> Pediatrics, Research and Interprofessionalism, Neurology/Psychiatry, Ob/GYN, OSCE 25 weeks
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Year Four

<b>Block XI</b> Critical Care, Acting Internship, ER, Electives, Research, Interviews 24 weeks	<b>Block XI</b> Electives, Research, Community Service Learning, Interprofessionalism 16 weeks	<b>Graduation</b>
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## Assessment

- All Four Value Domains
- Multiple Strategies
- Centralized
- Director of Assessment
- Electronic

## Assessment Week

	Mon	Tue	Wed	Thur	Fri
AM	Research	Interprofessionalism	Integrated Case Exam	Performance Review	Student Meetings
PM	Basic Science (MCQ) (Lab)	Clinical Science (MCQ) (Skills)		Performance Review	Student Meetings

## Student Assessment Plan

<u>Component</u>	<u>Passing Score</u>	<u>Grade</u>
<b>Basic Science Domain</b> MCQ exam Laboratory exam	75%	S/U
<b>Clinical Science Domain</b> MCQ exam (40%) Skills exam (60%)	75%	S/U
<b>Interprofessionalism Domain</b> Skills Evaluation (35%) TAG Facilitator (35%) MCQ exam (30%)	75%	S/U
<b>Research Domain</b> MCQ exam	75%	S/U
<b>Integrated Case Exam</b> Case-based short answer exam	75%	S/U
<b>Facilitator Evaluation</b>		S/U

## Remediation

- After each Block
- Domain Specific
- Exam analysis and deficiencies identified
- Oral or written exams
- Summer Program

## Program Evaluation

- Centralized and Electronic
- After each block
- Domain Specific
- Faculty lecturers and facilitators
- Director of Evaluation

## Faculty Development

- PBL Theory and Practice (6 sessions; 200 faculty)
- Facilitator Training (21 facilitators)
- Case Writing (6 Blocks; 30 faculty)