The Vermont Integrated Curriculum

2018-2019 Academic Year

Updated and Approved by the Medical Curriculum Committee on 7/24/2018

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Mission Statement

The Vision of the University of Vermont (UVM) is to be among the nation's premier small research universities, preeminent in our comprehensive commitment to liberal education, environment, health, and public service.

In support of this vision, the Mission of The Robert Larner, M.D. College of Medicine at The University of Vermont is to educate a diverse group of dedicated physicians and biomedical scientists to serve across all the disciplines of medicine; to bring hope to patients by advancing medical knowledge through research; to integrate education and research to advance the quality and accessibility of patient care; and to engage with our communities to benefit Vermont and the world.

Medical Education Vision Statement

We will be a College of Medicine respected by our peers for our innovative and outstanding teaching. We will be distinguished by preparing graduates who achieve excellence in their chosen fields and who demonstrate extraordinary compassion and commitment to the service of patients, the medical profession and the community.

Curriculum Competencies

Graduates of the Larner College of Medicine medical education program will be proficient in the following competencies:

Patient Care

- Demonstrate skills in core activities required for patient care including establishing rapport, collecting a patient history and performing a physical examination.
- Interpret clinical findings, make appropriate use of tests and procedures, formulate assessments, and develop effective plans to diagnose, treat, and prevent health problems and to promote patient health.
- Demonstrate compassion, courtesy, and respect for the social and cultural perspective of the patient.

Medical Knowledge

- Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences related to the practice of medicine.
- Apply scientific knowledge to explain determinants of health, mechanisms and consequences of diseases, and principles underlying methods of diagnosis, treatment, prevention, and health promotion, at individual and population levels in current and evolving health care settings.

- Interpret and analyze information to develop appropriate diagnostic assessments and plans for treatment, disease prevention, and promotion of health.

- Locate, evaluate, and synthesize information required for patient care from the medical literature using appropriate resources and technology.
- Demonstrate behaviors of life-long learning guided by continuous self-assessment and improvement.

Practice-based Learning and Improvement

- Apply principles of evidence-based medicine to inform patient care in current and evolving health care settings, including for diagnosis, treatment, and prevention of health problems and for promotion of health.
- Teach and perform research to contribute to the education of other health professionals.
- Demonstrate practices of self-assessment and continuous improvement, based on reflection and feedback, of the knowledge, skills and attitudes required for patient care in current and evolving health care settings.

Interpersonal and Communication Skills

- Communicate and collaborate effectively with patients, families and health professionals to provide compassionate, appropriate, and effective patient care.
- Communicate appropriately and effectively with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds

Professionalism

- Behave in accordance with professional and ethical principles, including but not limited to altruism, compassion and empathy, accountability and responsibility, excellence and scholarship, duty and service, social responsibility, honor and integrity, respect, humility, and cultural competence.

Systems-based Practice

- Demonstrate awareness of and responsiveness to the larger context of systems of health care through effective use of system resources, coordination of care, and practices that enhance quality and safety.
- Participate in the care of patients as an integrated member of an effective health care team.

The Larner College of Medicine requires successful completion of three levels of study before the Doctor of Medicine is awarded. The curriculum is continually updated based on innovation and evaluation by students and faculty members; however, the basic concept of developing outstanding practitioners remains constant. All students are bound by the provisions of the Medical Student Handbook and the Tenets of Professionalism (Appendix 1) as a condition of attendance.

The Curriculum

The educational program is comprised of three levels. **Level One** is the foundation of the educational program and features the development of fundamental science knowledge in a clinically relevant context and the acquisition of clinical skills. Initial courses in the fundamentals of medical science are followed by a series of organ system-based courses. **Level Two** consists of core clerkships emphasizing the basic principles and practices of clinical medicine. This level is comprised of rotations in family medicine, pediatrics, outpatient medicine, inpatient internal medicine, surgery, obstetrics and gynecology, psychiatry, and neurology. Additional educational experiences that are of a clinical nature but not specific to any one discipline are also included. **Level Three** provides students with additional opportunities for the application of medical knowledge with increased responsibilities for the care of patients. This level is comprised of several core requirements, completion of a teaching practicum or scholarly project and electives. Clinical correlations are prominent in the curriculum at all levels, beginning with meeting a patient on the first day of medical school.

LEVEL 1 – FOUNDATIONS

The purpose of Level One/Foundations is for students to develop a fundamental understanding of health and illness as framed by systems from single genes to entire populations.

ORIENTATION

The weeklong orientation is designed to prepare the entering student for a successful transition to the College of Medicine. New students are mentored by faculty members and more senior students, and are provided opportunities for building professional, collegial communities. (1 credit hour)

PROFESSIONALISM, COMMUNICATION AND REFLECTION

Professionalism, Communication, and Reflection (PCR) is a yearlong course that is comprised of small, process-oriented discussion groups with a faculty preceptor once a week. Important themes of the course include: 1) Facilitating professionalism in medicine, 2) Developing self-awareness and personal wellness to promote the highest standards in clinical care, 3) Cultivating the habit of communicating with peers and colleagues about difficult subjects, 4) Developing a healthy approach to the emotional challenges of clinical work, 5) Improving understanding of culture and diversity in the practice of medicine, 6) Developing a willingness to examine and discuss social and economic forces in medicine and, 7) Learning to attend to the narratives of patients and physicians. This course fosters self-awareness, emotional intelligence, mindfulness, and the capacity to care for self and colleagues. Each week, the groups focus on a topic that widens the lens on a current academic topic in their foundations curriculum or relates to important issues in medical practice. PCR mentors will also serve as their students Careers in Medicine (CIM) advisors for the first two years of medical school. Therefore, regular advising meetings and Careers in Medicine material is integrated into the PCR curriculum. (2 credit hours)

FOUNDATIONS OF CLINICAL SCIENCE

This course builds from fundamental concepts of anatomy, biochemistry, cellular metabolism, and molecular genetics to understand cell biology, pharmacology, embryology and human physiology. Through an integrated study of normal healthy structure and function students examine microscopic and gross anatomy and interpret introduces basic principles, concepts, and methods that are foundational to the study and practice of medicine, drawing from disciplines including biochemistry, cell biology, epidemiology, ethics, genetics, pharmacology, and public health. Students learn to apply basic scientific principles and develop frameworks for clinical decision-making and the practice of evidence-based medicine during course activities that include team-based learning, small- and large-group discussions, interactive modules, lectures, and clinical skills practice with standardized patients. The integrated, interdisciplinary organization of the course highlights clinical, ethical, and public health implications of basic medical sciences. Interactive sessions also include guided practice with a variety of learning strategies to help students develop effective approaches that will prepare them for success in their ongoing studies. (18 credit hours)

ATTACKS AND DEFENSES

Attacks and Defenses is the bridge course between Fundamentals and Systems Integration courses and addresses the vocabulary, principles, and pathophysiology of disciplines that are not necessarily organ based. The course integrated studies in hematology, immunology, microbiology, toxicology, pathology, pharmacology, and neoplasia. Students will be introduced to advanced history taking skills, clinical problem solving skills and application of evidenced medicine. Instructional methods include lectures, weekly laboratories and small group exercises, evidence-based medicine assignments, team-based learning, team-based problem solving and standardized patient exercises. (6 credit hours)

NUTRITION, METABOLISM & THE GASTROINTESTINAL SYSTEM

This course utilizes both an organ- and disease-based focus to organize studies in nutrition and metabolism, the gastrointestinal and endocrine systems, and liver and biliary tree function. It is designed to integrate cell metabolism, normal and pathologic anatomy, pharmacology, physiology, pathophysiology and the physical examination and related interviewing, diagnostic testing and imaging. Understanding the metabolic and pathophysiologic consequences of public health problems including malnutrition, obesity and diabetes reinforce concepts learned. Learning is facilitated through active learning sessions, assigned readings, small group case discussions and workshops for problem solving and skills development. Clinical correlations reinforce the lessons of the community preceptorships. (8 credit hours)

NEURAL SCIENCE

Students in this course learn about the nervous system through integrative study of behavior, cellular and systems neurobiology, neuroanatomy, neuroethics, neuropharmacology, neurophysiology, pathophysiology, and psychopathology. Students also learn the neurologic and mental status examinations, related interviewing, diagnostic testing and imaging. Several

instructional methods support learning in this course, including lecture, online independent study modules, readings from a variety of sources, laboratory sessions, physical examination and interviewing skills sessions, simulation, team-based learning and case discussions prepared by students. (9 credit hours)

PUBLIC HEALTH PROJECTS

During the second year of the Foundations Level, Professionalism, Reflection and Communication groups formed during the first year apply their group leadership, professional, and team skills to a public health project. Public health projects are designed to teach students about public health and the health issues that face our communities as they work side by side with the groups, organizations, and individuals in these settings. These projects begin to develop the background in population-based medicine and prevention a physician needs to fully address a range of health issues. Public health projects are carried out in Vermont communities and enable students to apply the principles and science of public health to health needs in the community. (1 credit hour)

CONNECTIONS

Students in Connections study skin, connective tissue, and the musculoskeletal system using appropriate aspects of cell metabolism, endocrinology, normal and pathologic anatomy, pharmacology, physiology, pathophysiology and the physical examination and related interviewing, diagnostic testing and imaging. It introduces students to the fields of the orthopedics, rheumatology and dermatology during the basic sciences. (3 credit hours)

CARDIOVASCULAR, RESPIRATORY, AND RENAL SYSTEMS

The Cardiovascular, Respiratory, and Renal Systems (CRR) course uses multiple learning modalities to emphasize the pathophysiology of diseases that affect these 3 related organ systems. Students recognize life and organ threatening disease processes and study pharmacological and interventional management of diseases affecting the cardiovascular, respiratory and renal systems. Basic biology and genetics are integrated with clinical data, including diagnostic testing and clinical imaging. The course also examines scientific and genetic evidence in the clinical management of sudden cardiac death, cystic fibrosis, asthma, autosomal dominant polycystic kidney disease, and hypertension. The final week of CRR emphasizes organ integration in diseases such as hypertension, shock and acid-base disorders. Students also learn and apply clinical skills pertaining to the cardiovascular and respiratory systems. (8 credit hours)

HUMAN DEVELOPMENT AND REPRODUCTIVE HEALTH

Human Development and Reproductive Health is a seven week course that studies human life cycle development, the male and female reproductive system, age related illnesses, disability, gender identity, sexual orientation and social determinants of health. These areas are covered in tandem with one another, using a chronological approach beginning with the health of the fetus and continuing up through childhood, adolescence, the adult reproductive years, and the geriatric years. Students are introduced to the process of integrating life cycle factors into their consideration of

differential diagnoses and their approach to therapeutic care. Lectures, Team Based Learning and pathology labs are supported by small group meetings and workshops. (7 credit hours)

CONVERGENCE

The Convergence course uses problem-based learning (PBL) to reinforce and integrate topics covered in previous courses and to apply clinical problem solving skills in preparation for the students' transition into the clerkships. The PBL process requires that students recall knowledge and integrate with new knowledge in the context of solving a clinical problem. The students work through 6 clinical case problems with a clinical faculty facilitator. The course format includes the identification of student knowledge gaps (learning issues), peer teaching through brief presentations, and an opportunity for oral case summary presentations. (4 credit hours)

DOCTORING IN VERMONT

Doctoring in Vermont is a course that spans the first and second year of Foundations. Students spend 8 sessions in the office of a primary care physician within a one-hour drive of Burlington. Students travel to their preceptor's office, observe direct patient care, and practice interviewing and examination skills. In the second half of this course students perform a complete history and physical examination using standardized patients, in preparation for Clerkship years. (2 credit hours)

LEVEL 2 – CLERKSHIP

The Clerkship Year is designed to build on competencies acquired in Foundations to develop the knowledge, skills and attitudes needed for clinical care and decision-making in a variety of medical settings. There are two possible pathways to complete the clerkship year, **Traditional Clerkship** and **Longitudinal Integrated Clerkship**.

Traditional Clerkship Pathway

The year is composed of 8 clerkships that are departmentally-based and provide clinical experiences supported by structured educational programs, and a four-week longitudinal Bridge Clerkship. All clerkships must be completed under the supervision of UVM College of Medicine faculty at an approved clinical site. Upon completion of this level students complete a summative clinical skills exam (Total = 49 weeks of required clerkships, and 3 weeks of vacation.) UVM students gain clinical experience during clerkship and advanced integration at a variety of inpatient and outpatient settings and locations including UVM Medical Center in Burlington, Norwalk Hospital and Danbury Hospital in the Western Connecticut Network, and St. Mary's Medical Center in West Palm Beach FL.

FAMILY MEDICINE CLERKSHIP

This clerkship emphasizes the acquisition of skills and knowledge related to the care of patients in the outpatient setting. Family Medicine physicians care for a diverse group of patients of all ages on a longitudinal basis providing acute care, chronic disease management, prevention, health maintenance and education. They also coordinate care when subspecialty consultation is required. Students will examine the role of the Family Physician, both in leading the patient-centered medical home and within the complex health care system as a whole. The clerkship begins with small group, hands-on instruction utilizing the Simulation Center and Standardized Patients and other diverse teaching tools to learn skills and procedures for the office setting. Students then spend five weeks in a continuity clinical practice site, mostly based in rural New England. Along with working one-on-one with a preceptor in their outpatient clinic, many community faculty involve the students in their hospital work, nursing home care and home visits. Some physicians include obstetrics or other special focus in their work such as sports medicine. Students complete a community project and study from a national on-line curriculum designed by the Society of Teachers of Family Medicine. (6 credit hours)

INTERNAL MEDICINE CLERKSHIP

The inpatient medicine clerkship integrates medical knowledge acquired in the Foundations level) with bedside clinical knowledge in the management of acute medical problems and chronic illness. Students expand their medical knowledge, develop their clinical skills including history taking and physical examination, interpret clinical information including laboratory and imaging data, learn differential diagnoses, practice diagnostic and therapeutic decision making, and develop proficiency in how to effectively communicate this information in both oral and written formats. Students are integral members of the ward team which includes a faculty attending physician and usually a 2nd or 3rd year medical resident, intern and acting intern. The clerkship relies on experiential learning supported by structured learning activities and didactic sessions throughout the clerkship. (6 credit hours)

NEUROLOGY CLERKSHIP

The Neurology Clerkship is a combined inpatient-outpatient experience. Students spend most of the rotation working with inpatients, learning to care for neurological patients in an acute care setting. Students take an active role in following and managing those patients assigned to them. An emphasis is placed on properly performing and interpreting the neurological examination. There is ample exposure to testing of the nervous system, including neuroimaging. Students are encouraged to go to the literature to gather information about their patient's problems and, toward the end of the rotation, will give a brief clinical talk to the team. Didactics include interactive group case discussions using clinical cases to discuss important concepts related to clinical neurology. Evaluation of the students comes from feedback from their clinical instructors, scores on an NBME subject examination, performance on clinical skills exam, evaluation of a submitted H&P, and evaluation of their topic presentation (3.5 credit hours).

OBSTETRICS AND GYNECOLOGY CLERKSHIP

The Obstetrics and Gynecology clerkship is a combined inpatient and outpatient experience. Ob/Gyn physicians care for a diverse group of patients of all ages on a longitudinal basis providing acute care, chronic disease management, prevention, health maintenance and education. This clerkship emphasizes the acquisition of skills and knowledge related to the care of women through the spectrum of normal reproductive transitions, which include puberty, pregnancy, and menopause. In addition, the student is taught to recognize and understand the pathophysiology and approach to the management of common and threatening problems related to reproduction. During the clerkship, students' will experience and explore the unique field of Obstetrics and Gynecology that spans from primary care to a surgical subspecialty, spans 3 settings including the clinic, the operating room, and labor and delivery, and allows for longitudinal relationships with patients across their lifespan. The clerkship consists of only experiential and active learning, there are no lectures. There are daily interactions with patients, residents, fellows, and faculty that facilitate students' learning. Students expand their medical knowledge and develop clinical skills including, recognition of the clinical signs and symptoms of common obstetrical and gynecologic disorders, completing histories and physical exams, developing differential diagnoses, and using evidence based medicine and critical thinking skills to practice diagnostic and therapeutic decision making. Students will also develop proficiency in how to effectively communicate this information in both oral and written formats. Evaluation of medical knowledge is done using an NBME subject examination. Clinical knowledge, skills and behaviors are assessed by faculty observations and evaluations and by a clinical skills examination (CSE). (6 credit hours)

OUTPATIENT INTERNAL MEDICINE CLERKSHIP

This outpatient clerkship provides learners with the foundation of skills, experience and knowledge that prepares them to care for adults in an ambulatory setting. Specifically, students will manage both acute and chronic medical problems. In addition to learning prevention and health maintenance, students experience the breadth of disease management. The clerkship consists primarily of experiential learning. It provides an opportunity for daily interaction with patients as well as one-on-one mentoring with a physician preceptor. Students continue to develop problem solving skills, oral and written communication skills and lifelong learning skills. They will gain an understanding of the role of a primary care physician in the management of patients and populations. The clerkship focuses on Basic Generalist Competencies and specific Clerkship Directors of Internal Medicine Learning Objectives/Training Problems. (3.5 credit hours)

PEDIATRICS CLERKSHIP

The pediatric clerkship consists of ambulatory and inpatient components. The goals are for students to acquire the basic knowledge, clinical and communication skills necessary to care for children from birth through adolescence. Students will develop skills necessary for the diagnosis

and treatment of acute and chronic medical conditions as well as develop health promotion strategies. Students will refine universal problem solving, oral and written communication, and lifelong learning skills. Working with primary care physicians, hospitalists, sub-specialists, and allied health professionals, students will have a broad exposure to the field of pediatrics, the role of the pediatrician in caring for patients, and the influence of family, community and society on the health of children of all ages. The clerkship is experiential in nature with weekly interdisciplinary active learning sessions to help students meet the course objectives. (7 credit hours)

PSYCHIATRY CLERKSHIP

The Psychiatry Clerkship provides the opportunity to improve their knowledge of psychiatric illnesses and substance use disorders that occur across the lifespan, including focus on prevention, management, and health promotion. Students recognize the signs and symptoms of psychiatric disorders, and the acute phase of response to pharmacological and psychotherapeutic interventions in largely inpatient, and some outpatient, settings. Through the didactics and clinical teaching, students will develop knowledge of the etiology and pathogenesis of emotional-behavioral problems and gain understanding of the indications for, mechanisms of action of, and potential adverse effects of a variety of treatments for such disorders. Students will develop empathy for those suffering with mental illnesses and knowledge of the role that psychiatric conditions play in clinical practices across all specialties. (6 credit hours)

SURGERY CLERKSHIP

Students become part of the surgical team and experience the unique relationship surgeons have with their patients. All students will have exposure to general surgery as well as some surgical sub-specialties. Clinical experiences occur in the outpatient and inpatient setting and students will have exposure to acute presentations of disease. Students will develop skills in recognizing the clinical presentation of common surgical disease, in completing histories and physicals, developing differential diagnosis, developing assessment and plans for common surgical problems. They will develop their communication skills, and learn to apply principles of evidence-based medicine to the care of surgical patients. Students will be involved in the preoperative and post-operative management of patients, and will display professionalism and ethics in the care of patients. This clerkship will provide the opportunity for students to develop technical skills in selected procedures. (7 credit hours)

THE BRIDGE CLERKSHIP

This longitudinal multidisciplinary curriculum is designed to support professional growth and to focus on topics that are important in all disciplines of medicine. This course includes topics of global health, palliative care, nutrition, patient safety, healthcare delivery and the economics of health care, complementary medicine, pain management, genetics, communication skills, and evidence

based medicine. In the Professionalism, Communication, and Reflection Sessions (PCRII) Students continue to explore concepts of Professionalism, Communication and Reflection I course, with emphasis on application in the clinical setting. (3 credit hours)

The Longitudinal Integrated Clerkship Pathway

A 12-month Longitudinal Integrated Clerkship (LIC) runs simultaneously with the traditional clerkships and serves as an alternative pathway. Students are placed in primary care practices in a UVM affiliate. The LIC curriculum has the same core educational objectives, course requirements and uses similar instructional and assessment methods as the traditional block clerkships. The major difference is that students in the LIC will meet the objectives of each clerkship in a longitudinal manner rather than in the traditional block schedule over the course of 12 months.

Students are assigned to 1-2 primary care faculty physicians, who will serve as preceptors for the entire year; students will also have dedicated faculty preceptors to ensure adequate instruction in Family Medicine, Surgery, Ob/Gyn, Pediatrics, Internal Medicine, Psychiatry, and Neurology. Working with their preceptors, students will progressively develop a panel of patients to satisfy all required clinical encounters needed for clinical instruction in the clerkship level. Students embedded in primary care clinics will participate in providing comprehensive care to their patients, including wellness, acute care, and chronic care. They will work with interprofessional teams of physicians, nurses, social workers, pharmacists, and mental health workers in the emergency room, the hospital, subacute rehabilitation centers, hospice, and home care.

Each student participates in up to 80 hours per week of total instruction. Of these, approximately 16 hours per week are allotted to unstructured time to allow students to participate in course work, discipline specific lectures or to follow their patients into other settings, e.g. consultations, tests or procedures. Students assist in patient navigation, providing continuity and communication between all providers of medical care. Students see patients in ambulatory settings in all of the required disciplines. Required inpatient experiences are accomplished by using “burst weeks,” in which students will leave their ambulatory home base and participate in inpatient, discipline specific, experiences with specialty preceptors, at an affiliate hospital. These burst weeks are in the required disciplines of Internal Medicine, Surgery, Ob/Gyn, Psychiatry, Neurology, and Pediatrics.

LEVEL 3 – ADVANCED INTEGRATION

The Advanced Integration level comprises required activities that enhance the student’s clinical skills and knowledge of basic and clinical science, and elective activities that allow the student to shape his or her own professional development. All students are required to include in their schedules:

- Two acting internships (AI). One of the AIs must be in Internal Medicine and the other is a discipline selected by the student.
- One month of surgical specialty training.

- The Emergency Medicine Selective
- A teaching practicum/scholarly project

ACTING INTERNSHIP IN INTERNAL MEDICINE

The Acting Internship in Internal Medicine consolidates and refines the student's Internal Medicine medical knowledge and clinical skills at a level of competency necessary to deliver comprehensive care to medical inpatients. Through increased responsibility in the evaluation and management of patients and through closely supervised direct patient care experiences, students attain a level of competence and self-confidence sufficient to be prepared for entering their first year of residency. This Acting Internship must be completed at either the University of Vermont Medical Center in Burlington or Danbury Hospital or Norwalk Hospital in the Western Connecticut Health Network. (4 credit hours)

ACTING INTERNSHIP

Each student completes at least one month of Acting Internship in addition to the Acting Internship in Internal Medicine. This Acting Internship is in a specialty of the student's choosing and consolidates and refines the student's medical knowledge and clinical skills at a level of competency necessary to deliver comprehensive care to inpatients. Through increased responsibility in the evaluation and management of patients and through closely supervised direct patient care experiences, students attain a level of competence and self-confidence sufficient to be prepared for entering their first year of residency. This Acting Internship may be in any inpatient service that fulfills the requirements and be completed at the University of Vermont Medical Center, or at an approved affiliate site. (4 credit hours).

EMERGENCY MEDICINE

This required rotation integrates the practice of medicine in a situation where the student is the first provider to see the patient, develops differential diagnosis and treatment plan, and presents each patient to the supervising attending. The Student will spend 2 weeks at UVMMC and 2 weeks at an affiliated private hospital. Online modules developed by the University of Vermont College of Medicine support the clinical experience and ensure consistent development of core competencies for all students. Didactic lectures and simulations are completed while at UVMMC. All students must pass the NBME Subject Examination in Emergency Medicine at the end of the rotation. (4 credit hours)

SURGERY SPECIALTY / SUBSPECIALTY

This rotation is designed to provide the student with further knowledge of surgical subspecialty areas of interest to them. Students can select either two separate (2 credit hour) surgical speciality/subspeciality rotations or one full month (4 credit hours). If taken as an acting internship, this requirement can also satisfy the second Acting Internship Requirement.

TEACHING REQUIREMENT/SCHOLARLY PROJECT

The Teaching Practicum/Scholarly Project reinforces foundational sciences through teaching or scholarly activity and strengthens longitudinal integration in the VIC by revisiting foundational sciences with clinical perspective. Students may fulfill the practicum experience in one of two ways: the Teaching Practicum or a Scholarly Project. In the **Teaching Practicum**, students act as a teaching assistant in the VIC. Duties could include small group facilitation, laboratory teaching, tutoring, leading review sessions, developing on-line teaching materials, and preparing assessment and other teaching materials. Students attend two teaching workshops during the month, the first providing specific instruction tailored to their teaching duties, the second on assessment and feedback. The **Scholarly Project** encourages the development of students as physician-scholars by engaging in scientific inquiry. The scholarly project enhances inquiry, analytical, and communication skills. It solidifies the foundation for lifelong learning by through critical evaluation of data. The research project may be in the basic or clinical sciences.

ELECTIVE COURSES

Students are required to take an additional 28 credit hours of elective courses. Students choose from an array of elective offerings from all departments of the College of Medicine. These electives are designed to expand clinical skills and knowledge and to assist students in exploring career choices. During Advanced Integration, students may also choose extramural rotations. They must have educational benefit and be approved by students' advisors at least one month before the rotation begins.

ADDITIONAL CURRICULAR REQUIREMENTS

In addition to the graded courses and clerkships, each student must satisfy the following graduation requirements:

- All students complete Foundations Capstone Course (MD 580) following the foundations level.
- All students must pass Step 1 of the United States Medical Licensing Examination to progress to the Clerkship Level.
- All students must pass observed structured clinical skills examinations after completion of the Foundations level and after completion of the Clerkship Level.
- All students must pass Step 2 CK and Step 2 CS of the United States Medical Licensing Examination prior to graduation.

Assessment of Student Performance

Students are assessed in cognitive, affective, and psychomotor domains in all courses with an emphasis on formative evaluation throughout each course, providing frequent feedback to the student. Examinations and quizzes are coordinated in all components. A Pass/Fail grading is used in Foundations

courses and a Pass/Fail/Honors system is used for clerkships and required Advanced Integration courses. Generally, electives shorter than 4 weeks are graded as Pass/Fail, whereas 4 week electives are generally graded as Pass/Fail/Honors. A written and narrative assessment of student performance is provided where appropriate in all courses and clerkships. Students are assessed individually based on curriculum standards and are not ranked against each other. Standardized examinations of clinical skills are administered frequently.

Evaluation of the Curriculum

Ongoing evaluation of all elements of the curriculum is essential to maintain continuous improvement. Evaluation of the curriculum is performed by students, faculty and staff. The process is directed by the Teaching Academy. The Teaching Academy, in collaboration with other staff, ensures adherence to evaluation policy and procedure. The Medical Curriculum Committee has overall responsibility for management and evaluation of the curriculum. The Teaching Academy is responsible for conducting the evaluation of the curriculum across all four years, including planning, day-to-day management, implementation, and reporting aspects of evaluation.

For each course and clerkship, all students complete an evaluation of faculty and the course/clerkship overall. At the Foundations level, selected students (i.e., using sampling procedures) complete evaluations of learning activities within courses. These data, in part or full, are provided to course faculty, course/clerkship directors, and department chairs after completion of the course. The course and clerkship directors use these and other data to prepare a Quality Assurance Report (QAR). The QAR is shared with the Director of Foundations or Associate Dean for Clinical Education, respectively, as well as the Teaching Academy's Director of Curricular Evaluation and Assessment. Annually, Course Directors and SEG present a summary of and reflection on the evaluation data, as well as recommendations to the Foundations and Clerkship Committees.

The Quality Assurance Report is distributed by the course director to the Medical Curriculum Committee at its regular monthly meeting. The Committee considers the findings and recommendations of the Foundations or Clerkship Committee and may ask for a response from the course/clerkship director. The Committee will then consider actions for improvement and amend the report to included mandated changes in objectives/competencies, course content, methods of instruction and assessment, gaps and redundancies in the curriculum, timing of content, etc. After resolution of all outstanding issues, the amended report is approved by the Medical Curriculum Committee and sent to the course director for implementation of the mandated changes. The Medical Curriculum Committee monitors the curriculum by examining course, clerkship and component assessments. The Medical Curriculum Committee performs program evaluation using outcome data from various sources, including internal assessments, USMLE Step I and II scores and results of other standardized examinations, data from the AAMC Graduation Questionnaire and surveys of first year residency program directors.

Appendix 1.

Statement on Medical Professionalism

The University of Vermont College of Medicine educates physicians to meet high standards of professionalism and practice in environments where effective, humane, and compassionate patient care is paramount. We affirm our commitment to creating and maintaining a community that supports and encourages respect for every individual. To that aim, we expect all members of the UVM College of Medicine community to act professionally in the school, hospital and wider community with patients, those close to them, families and colleagues.

Medical training is a time of unique clinical, educational and social experiences for medical students as well as a time when appropriate professional attitudes and behaviors can be developed and nurtured. Those responsible for educating medical students must emphasize the importance of professionalism and demonstrate it by example.

While knowledge and technical skills are crucial in medicine and science, the manner in which they are used is equally important. In addition to competence in their disciplines, all medical professionals must strive to exhibit those qualities that constitute professionalism.

TENETS OF PROFESSIONALISM

Ten relevant and important Tenets of Professionalism have been identified which pertain to medical professionals at all stages of education, training and practice within the UVM College of Medicine community. These include:

1. Altruism
2. Compassion and Empathy
3. Accountability and Responsibility
4. Excellence and Scholarship
5. Duty and Service
6. Social Responsibility
7. Honor and Integrity
8. Respect
9. Humility
10. Cultural Competence

In order to fulfill these basic tenets successfully, each of the above attributes relies on ongoing efforts by individuals to develop awareness and insight into his or her own emotions, motivations and actions in order for the primacy of patient welfare to be preserved.

1. Altruism

Altruism is defined as the unselfish regard for the wellbeing of others and is essential to engendering trust.

Total selflessness is not sustainable and must not be confused with altruism. Self-care fosters balance in the lives of physicians, which ultimately leads to improved patient care.

2. Compassion and Empathy

Compassion refers to the awareness of, acknowledgement of, and desire to relieve, the suffering of others. Empathy refers to the ability to put oneself in another's situation. Compassion and empathy dictate that a person's individual lifestyle, beliefs, idiosyncrasies, and support systems be respected and taken into consideration.

3. Accountability and Responsibility

Medical professionals are accountable and responsible to their patients for fulfilling the implied contract governing the patient/physician relationship, to their profession for adhering to medicine's time-honored ethical principles, and to society for addressing the health needs of the public. Medical professionals are accountable and responsible to their colleagues for maintaining the highest level of professionalism.

4. Excellence and Scholarship

Excellence in medicine entails conscientious efforts to exceed ordinary expectations during medical education and training, and beyond. Scholarship entails curiosity and motivation for life-long learning and improvement.

5. Duty and Service

Duty is an obligation to serve others, even when the beliefs and values of the person being served differ from one's own. For the medical professional, duty implies an awareness, sensitivity, and responsiveness to patients and others in need. Service is the sharing of one's talents, time, and resources with those in need.

6. Social Responsibility

Medical professionals must promote justice in the health care system, including fair distribution of health care resources. They should work actively to eliminate discrimination in health care, as well as barriers to health, and to advocate for the availability of health care for all.

Medical professionals must demonstrate concern for and responsiveness to social problems that endanger the health of members of society. Recognizing its relevance to human health, medical professionals must support and promote environmental sustainability.

7. Honor and Integrity

Honor and integrity are the consistent regard for the highest ethical standards of behavior. Honor and integrity include truthfulness, fairness, conscientiousness, commitment to the ethical principles of medicine and faithfulness to commitments and obligations.

8. Respect

Respect is the sincere regard for the autonomy and values of other people -- their feelings, needs, thoughts, ideas, wishes and preferences. This includes patients, those close to them, families and colleagues.

9. Humility

No matter how well informed, well trained and knowledgeable a medical professional may be, humility requires medical professionals to develop an awareness of the limitations of our current knowledge, our systems which make use of current knowledge, and our own personal abilities.

10. Cultural Competence

Cultural competence refers to the ability to interact effectively with people of varying social or cultural backgrounds, different beliefs or practices, different race, religion, ethnicity, gender, sexual orientation and disability and veteran status. This requires awareness and recognition of one's own cultural attitudes and traditions and a sincere curiosity to understand the cultural attitudes and traditions of others.

Developing cultural competence results in an increased ability to understand, respect, communicate with, and interact effectively with other people.

SUMMARY

The tenets of professionalism as described above combine to create a milieu that enhances patient care, scholarship and research, commitment to the health care needs of society, and the ability of all members of the UVM College of Medicine community to interact and carry out their responsibilities optimally. Medical knowledge and skill are simply not enough. Optimal medical and scientific practice require good judgment, respect for the values of the profession of medicine, and a commitment to the wellbeing of patients and those close to them.