

The Creighton Medical Curriculum

2011-2012

Creighton
UNIVERSITY
School of Medicine

Office of Medical Education

Our Office is dedicated to ensuring that our curriculum is delivered effectively to prepare our students to enter their residency of choice. Our team supports the faculty and course directors in:

- course planning
- identifying educational resources, including computer-based and simulation educational technologies
- coordinating curricular activities
- student evaluation
- faculty development
- development and conduct of educational research
- curriculum evaluation

Please feel free to contact us with questions or suggestions.

Thomas J. Hansen, MD
Associate Dean for Medical Education
Creighton University School of Medicine
Criss III, Room 463C
2500 California Plaza
Omaha, NE 68178
(402) 280-3600

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CREIGHTON UNIVERSITY

School of Medicine

Mission Statement

In the Jesuit, Catholic tradition of Creighton University, the mission of the School of Medicine is to improve the human condition with a diverse body of students, faculty, and staff who provide excellence in educating students, physicians and the public, advancing knowledge, and providing comprehensive patient care.

Vision Statement

We are a School of Medicine respected nationally for our values-centered excellence in teaching, research, clinical care, and leadership. We are distinguished for preparing graduates who promote justice and achieve excellence in their chosen fields while demonstrating an extraordinary compassion and commitment to the service of others.

Curriculum Goals and Objectives

Goals

The goal of the curriculum is to develop competent, caring physicians during graduate training and practice. Our students will acquire a strong foundation in the basic and clinical sciences. In addition, they will acquire a strong foundation in the humanities, social and behavioral sciences that are relevant to the well-being of both the physician and the patient.

Objectives

To attain the Doctor of Medicine degree, the Creighton graduate must fulfill the following in the Six Competencies of Medical Education:

PATIENT CARE

- Conduct an organized medical interview and obtain a pertinent medical history.
- Identify biopsychosocial needs of the patient.
- Perform an appropriate comprehensive physical examination.
- Present information verbally in a concise, complete and organized manner.
- Record information in a concise, complete and organized manner.
- Develop a differential diagnosis for each patient seen.
- Demonstrate effective clinical reasoning and judgment to determine an accurate diagnosis.
- Develop an appropriate treatment plan for each patient seen.
- Perform health maintenance exams.

MEDICAL KNOWLEDGE

- Describe the normal structure and function of the human body at the whole body, organ, cellular, and molecular levels.
- Describe the pathophysiology, signs, symptoms, risk factors, diagnostic tests, and treatment of common illnesses.

- Describe the current evidence-based clinical practice guidelines for treatment of common illnesses.
- Describe the current evidence-based preventive health care strategies and recommendations.

PRACTICE-BASED LEARNING AND IMPROVEMENT

- Demonstrate the ability to critically assess the medical literature and the research methods used to investigate the management of health problems.

INTERPERSONAL AND COMMUNICATION SKILLS

- Counsel and educate patients regarding their illness and treatment plans in an effective, concise and understandable manner.
- Communicate effectively with all members of the healthcare team.

PROFESSIONALISM

- Actively participate on rounds, clinic sessions, small group sessions and labs.
- Demonstrate punctuality and availability for all duties and professional obligations.
- Demonstrate honesty and integrity with all student responsibilities.
- Demonstrate compassion and empathy in the care of patients.
- Demonstrate respect, sensitivity, and responsiveness to diversity of culture, age, gender, sexual orientation and disability.
- Identify and propose solutions to moral, ethical and legal problems in medical practice.

SYSTEM-BASED KNOWLEDGE

- Use a team approach to provide comprehensive care.
- Organize patient care plans that incorporate referrals to other healthcare providers and/or community agencies and resources.
- Demonstrate an awareness of the relative cost benefit of different therapeutic options.

The School of Medicine requires successful completion of all components in each of the four years of study before the Doctor of Medicine is awarded.

The Curriculum

The educational program is divided into four components. Components I and II are the foundation of the educational program and present basic science information in a clinically relevant context. Initial discipline-based courses are followed by a series of organ system-based courses. Component III consists of core clerkships emphasizing basic medical principles, primary care, and preventive medicine. Component IV provides students with additional responsibilities for patient care including critical care medicine, and elective opportunities. Clinical experience is a prominent part of the curriculum in all components, beginning with physical diagnosis instruction in the first year and continuing with participation in longitudinal primary care clinic in the second year. The curriculum integrates ethical and societal issues into all four components.

Component I - First Year

The goal of the first year is to provide a strong foundation in basic biomedical science to prepare students for detailed basic science content that occurs within the clinically oriented system courses that begin in the second year. Students are also introduced to ethical and behavioral science principles in Ethical and Legal Topics in Clinical Medicine and Behavioral Medicine I and learn the fundamentals of physical assessment and interviewing techniques. An additional (non-curricular) requirement of advancement to Component II is the completion of certification in basic cardiac life support. Below are brief descriptions of the Component I courses.

Appendix 1. Required MI Courses.

Course Number	Description	Credit Hrs.	Wks of Instruct.	Lecture Hrs.	Small Group	Labs	Other	Patient Contact	Review	Exam Hrs.	Total Hours
IDC 101	Molecular and Cell Biology	9	18	112	20	7	0	0	4	11	154
IDC 103	Anatomy	6	17	69	0	130	0	0	15	16	230
IDC 105	Principles of Pharmacology	1	1	13	4	0	0	0	1	4	22
IDC 107	Principles of Microbiology	1	3	23	0	0	0	0	0	4.5	27.5
IDC 109	Host Defense	3	6	40	0	0	0	0	4	6	50
IDC 111	Neuroscience	7	8	81	12	9	0	7.5	0	13	122.5
IDC 135	Ethics and Legal Topics in Clinical Medicine	3	15	35	8.5	0	0		0	3	46.5
IDC 136	Interviewing & Physical Exam	4	36	19	15	9	0	0	0	4	47
IDC 138	Evidence Based Medicine	1	2	10	1	0	0	0	0	3.5	14.5
IDC 140	Behavioral Medicine I	3	2	38	4	0	0	0	0	2.5	44.5
IDC 141	CU Humanities Program	1	32	7	0	0	3	0	0	0	10
IDC 142	Physicians Lifestyle Management	1	36	7	0	0	10	0	0	0	17
TOTAL		40	36	454	64.5	155	13	7.5	24	67.5	785.5

IDC 101 Molecular and Cell Biology (9 credit hours)

The overall goal of this course is to provide the student with a comprehensive understanding of the fundamentals of molecular and cellular biology which serves as the foundation of modern medicine.

This course is one of the fundamental building blocks of the medical school curriculum. The curriculum is based in large part on the organ systems approach which will begin in the second half of the spring semester and continue through the second year. This will lead to clinical experiences in the third and fourth years for which students will need a solid foundation in the biomedical sciences. Knowledge of basic molecular and cell biology as it relates to cell, tissue and organ structure and function is a prerequisite for both the other basic science courses, and the more clinical subjects that comprise our medical curriculum.

The course faculty come from different disciplines and were brought together to present a coherent introduction to the cellular processes at the foundation of medicine. The course provides the information necessary for a clear understanding of the following general subject areas:

1. Cell and tissue structure
2. Cell function
3. Genetic information flow
4. Protein structure and function
5. Fuel metabolism
6. Metabolic building blocks
7. Cellular mechanisms in response to cell death and disease
8. Inflammation and cellular repair
9. Human genetics and developmental biology

10. Neoplasia
11. Hemodynamic derangements and shock

Historically, these were very different subject areas; but they now have so much in common that it is desirable and logical to present them in a single course. For administrative purposes, the course has been divided into four sections:

Unit I	Histology and Proteins / Enzymes
Unit II	Molecular and Cell Biology
Unit III	Metabolism
Unit IV	Molecular and Cellular Pathology

IDC 103 Anatomy (6 credit hours)

Successful completion of the Anatomy course should result in a firm knowledge of human anatomy that is based on correlation with current medical practice (medical knowledge). The process of gaining the didactic information and integrating it with eventual patient care is accomplished largely in the laboratory. Students who have worked in small groups with their “first patient” will have honed aspects of professionalism, interpersonal, written and verbal communication skills as well as the manual and perceptual skills necessary for many medical examination and procedural skills. Ethical and sensitive treatment of the bodies, the information gleaned from them, and the families of the donors will further incorporate the Ignatian values that are summarized in the phrase “men and women for and with others”.

This course focuses on the structure of the human body and anatomic principles which provide the basis for physical examination and much of the diagnosis and therapy used in clinical practice. Nearly one third of the allotted course time is spent in lectures which have a strong audiovisual component. The balance of the time is shared between cadaver dissection and clinical correlations. The course incorporates basic organogenesis (development of organs) exclusive of the central nervous system. Radiological components stress three-dimensional aspects of clinical anatomy. At the end of the dissection experience students are responsible for a report summarizing general pathological findings.

IDC 105 Principles of Pharmacology (1 credit hour)

The course goal is to facilitate student learning of principles that are fundamental to understanding drug action and the development of new drug therapy.

The overall goal of Principles of Pharmacology is to introduce the students to the principles of pharmacokinetics, pharmacodynamics, drug metabolism, and factors that influence drug response, and principles in the development/evaluation/control of various therapeutic agents. This course will provide the foundations for a more detailed discussion of individual drugs in drug classes during the individual systems courses. The course will be presented using didactic lectures and small group discussion sessions.

IDC 107 Principles of Microbiology (1 credit hour)

At the end of this course the student will have been provided with the information to have a clear understanding of the following general areas: (1) microbial cell structure and function including bacteria, fungi, and protozoa of clinical importance, (2) bacterial genetics and regulation, (3) viral structure, multiplication and genetics, (4) basic concepts in pathogenesis.

This is an introductory course for first year medical students to learn the principles of microbiology. The course will introduce students to the fascinating world of micro-organisms and to prepare them for a lifetime of learning microbiology in relation to medicine and infectious diseases. In the recent past major advances have been made in understanding the structure, physiology, and genetics of microbes. It is this understanding that has allowed us to understand the processes whereby microbial pathogens cause disease in humans.

IDC 109 Host Defense (3 credit hours)

The goal of the course is to develop an understanding of antigen recognition, development of B and T cells, constitutive host defenses, immunopathology, inflammation, transplantation, allergy, and tumor immunology. This will be accomplished using a mixture of lecture presentations, various interactive learning strategies including computer-aided-instruction and case-based discussions.

This is an introductory course for first year medical students to learn the principles of medical microbiology and immunology. This course will emphasize the relationship of immunology and human disease as well as the biological mechanisms utilized by the immune system. The course is composed of lectures, tutorials, computer-based cases, multidisciplinary quizzes and a final exam.

IDC 111 Neuroscience (7 credit hours)

The goal of the course is to understand normal neurological function (using neuroanatomy, neurophysiology, neuropharmacology, neuropathology, and clinical neurology) and then to be able to diagnose a patient's symptoms to locate the source of the problem within the nervous system.

Perhaps the most complex and intimidating area of medicine is that of the human brain and nervous system. Neuroanatomy has been traditionally a course with an incredible amount of memorization which is easily forgotten as time passes. The key to retention is understanding the relevance of what students have learned and using that information as a physician uses that information. The heart of this course in Neuroscience is to structure the learning of the material around the neurological clinical method of regional anatomical diagnosis. Not only will students learn the factual material, but will use it as they learn how to think as a neurologist in approaching clinical problems. The course will integrate basic science and clinical science. Course mentors will be clinical and basic scientists who will teach in both realms. Neuroanatomy, neurophysiology, neuropathology, neuropharmacology, and neurology have been integrated as much as possible and will be interwoven with each other throughout the course.

IDC 135 Ethics and Legal Topics in Clinical Medicine (3 credit hours)

The ultimate motivation for all physicians must be the welfare of each patient. Jesuit teaching holds that clinical decision making must not be based upon medical factors alone, but on ethical standards as well. Each physician must develop well-grounded, practical ethical standards to guide their decision making.

This course recognizes that each student brings values and beliefs from his/her family upbringing, religion, culture, education, and personal experience. During the semester, students will evaluate and augment these beliefs.

The course will provide a background of basic ethical and legal principles within a framework of clinical problems which commonly confront practitioners on a day to day basis. Students will gain knowledge and skills in the evaluation of ethical issues consistent with prudent ethical and legal guidelines. Students will accomplish these goals through didactic lectures, small group discussions, independent study (readings), and scholarly writing.

This course introduces students to the basic constraints and methods of ethical analysis and moral reasoning, with emphasis on their application to key ethical issues in health care practice and policy. Special attention is given to the role of the physician and the opportunities and challenges to the ethical practice of medicine in today's society.

IDC 136 Interviewing & Physical Exam (4 credit hours)

This course is designed to introduce the M1 student to the art of interviewing and examining a patient. This course begins with basic concepts and add more advanced concepts as the foundation of medical

knowledge develops. After completing this year of training, the M1 student should feel comfortable gathering basic information from a patient through history-taking and physical examination and competently examining a patient from head to toe.

The Interviewing and Physical Exam course is a two-semester offering which introduces the first-year medical student to the medical interview and the physical examination of patients.

Students will gain competency in these fundamental clinical skills through a variety of educational media--readings, lectures, demonstrations, films, and practice in both interviewing and physical exam skills. Practice sessions will enable students to learn and improve their skills with fellow students, with patient simulator models, and with Standardized Patients, that is, persons who are trained to play the role of patients with physical and psychiatric illnesses and medical histories.

IDC 138 Evidence Based Medicine (1 credit hour)

The goal of the course is to start the student on the process of incorporating Evidence Based Medicine into their clinical decision making and in preparation for USMLE Step 1.

This is an introductory course for first year medical students to develop an understanding of and skills in the use of Evidence Based Medicine. It is offered early in the spring semester and is composed of lectures, a computer lab, small group sessions, quizzes and a final exam.

IDC 140 Behavioral Medicine I (3 credit hours)

The course goal is to provide a basic foundation of health psychology and behavioral science in order that the medical student be able to:

1. understand the stages and processes of human development and the biopsychosocial aspects of behavior and human functioning in health and illness;
2. recognize the significance of the individual's emotions, cognitions, behaviors and psychological reactions as he and she cope with the challenge of adapting to the demands of living, working, and accommodating to others throughout the course of life;
3. utilize this foundation of knowledge to interact with patients in the doctor-patient relationship, to diagnose and treat a diverse population of patients with empathy and sensitivity, and to care for and manage patients with medical and psychiatric illness with skill and confidence.

The Behavioral Medicine I course presents an introduction to a variety of concept areas in the behavioral sciences and behavioral medicine. The course's purpose is to provide students with an understanding of:

1. the course of human development, including the stages of growth and change in many domains of human functioning;
2. normal human behavior in health, in illness, and in situations of challenges and difficulty;
3. the challenges and pressures of work as a medical student and physician, and recommendations for methods of coping, succeeding, and flourishing in one's training and one's career as a physician.

These understandings will serve as a foundation of knowledge for the students as they move from education and training in medicine to:

1. interacting with patients in the doctor-patient relationship;
2. diagnosing and treating diverse individuals with sensitivity and concern in a variety of serious contacts with persons seeking medical and psychiatric help for themselves and their family members;
3. recognizing the difficult challenges that patients face, which can enable them to work with patients in partnership, helping them to cope with and adapt to the vicissitudes of medical treatment and recovery.

Four major themes in the Behavioral Medicine I course will provide students with a perspective that will enable them to accomplish the course purposes and integrate them into their own perspectives:

1. Theories of development, including the biopsychosocial dynamic
2. Stages and domains of normal growth and development
3. The individual's psychological, emotional, and behavioral reactions to challenges and problems that occur during the life cycle.
4. The threat of violence and abuse in the lives of individuals and families.

Theories of development provide a description of processes that underlie the individual's passage to further development in one or another domain of change, such as brain and CNS development, or physical, social, cognitive, and emotional development. The biopsychosocial model presents a more general model of human development and functioning by way of a systems perspective, in which biological, psychological, and social systems interact to shape the course of development, as well as the onset, course, and outcome of medical and psychiatric illnesses. The biopsychosocial model recognizes the dynamic interaction of many factors in the changes that occur in the health and life of the individual: genetic factors, temperament, personality, family nurture or its absence, socioeconomic status, educational level, friends and peers, personal and cultural values.

The stages of human growth and development – physical, emotional, cognitive, psychosocial, behavioral, and moral – provide maps for understanding human change and individual variation across the life cycle. Knowledge of these maps and of the significant milestones of development will enable the student and physician to have an essential framework for understanding children and adults, as well as for recognizing developmental problems. The physician's recognition of the patient's developmental stage can enable him or her to understand the patient's emotional and psychological reaction that accompanies illness at every stage of life.

These predictable stages, and the psychosocial issues that arise, enable us to understand the stresses and strains in individual lives and families that may contribute to the development of medical and psychiatric illnesses and complicate the treatment and recovery. Understanding these complex stages gives the treating physician a framework for understanding the particular issues and meanings that shape the lives, emotions, and health of their individual patients.

The last course theme –violence and its effect on individual development ---is decidedly not part of normal development. It is included in our course because of its large and pernicious influence as a factor in American life and a hazard and impediment to the individual's health and development at every stage of life. Hence, the Behavioral Medicine I course presents a number of overviews and focused lectures on the abuse and neglect of children and on domestic violence. This will enable the student to better screen and assess patients so as to reduce this damaging element in their lives by providing assessment, appropriate treatment, and therapy.

IDC 141 Creighton Medical Humanities (1credit hour)

In the first year of this four year course, the focus will be on the Jesuit motto “Contemplatives in Action,” a term used to describe a Jesuit as being someone who regularly spends time in quiet contemplation of their mission in the midst of an active day. This course will provide an opportunity for students to learn about the Jesuits, the Sisters of Mercy, Jesuit Spirituality, and the missions of Creighton University, the School of Medicine and the Medical Center. The students will be asked to put together a one page paper or presentation (PowerPoint or Photostory) that articulates their personal mission.

In the first year the focus will be on the Mission of the Jesuits and the Sisters of Mercy as it applies to Creighton University, School of Medicine, and our two affiliate hospitals. The second year of the course will focus on “Cura Personalis,” or the care of the whole person as it applies to the patients they begin to

see in the clinic. The third year will focus on “Magis,” or “Greater” as students reflect on how to provide the best service possible to our patient population. The fourth year will focus on “Men and Women for Others,” or seeing medical education as a tool to be used in service of others.

IDC 142 Physicians Lifestyle Management (1 credit hour)

By participating in classes and activities, students will have the opportunity to learn about and develop in various areas of lifestyle management that contribute to becoming a successful physician, including: self-knowledge, study skills, career development, financial management, professionalism and leadership.

M1s will participate in the following:

- Myers-Briggs Administration and Interpretation
- Productivity and Environmental Survey Preferences Administration and Interpretation
- Vital Signs Mentoring Program Kick-off
- Vital Signs Group Meeting
- Vital Signs 1:1 Meeting (2X)
- Careers in Medicine Introduction
- Wellness Lecture
- Financial Advising
- Professionalism Lecture

The Physician Lifestyle Management is a year-long course combines a number of mandatory events, lectures and experiences into a course that is focused on the professional development of medical students. Four specific areas of development will be explored within the course content; 1) Professionalism, 2) Career Development, 3) Personal Growth and 4) Leadership Development. Students will participate in educational experiences in each of these four areas.

IDC 183 Healer’s Art (Elective) (1 credit hour)

The course goal:

- 1) Identify, strengthen and cultivate the human dimensions of the practice of medicine.
- 2) Recognize the commonality of personal concerns among their peers and gain support for personal development from peers and faculty.
- 3) Accept the universality of loss and pain.
- 4) Recognize grief as a self-care strategy for physicians, and identify strategies and tools of grieving.
- 5) Recognize the importance of community for the healing of grief.
- 6) Trust the power of listening and presence to heal others.
- 7) Recognize that who they are is as important to their patients as what they know.
- 8) Recognize and respond to the dimension of Mystery in the experience of illness.
- 9) Strengthen and clarify a personal commitment to medicine as a life’s work.
- 10) Develop a greater comfort with death and the death beliefs of patients.
- 11) Develop an expanded definition of death.
- 12) Recognize the legitimacy of awe in medicine, and develop the capacity for awe.

The Healer’s Art is a medical school curriculum designed by Rachel Naomi Remen, MD, Director of the Institute for the Study of Health and Illness at Commonweal, and Professor of Family and Community Medicine at the University of California, San Francisco (UCSF) School of Medicine. It is a 15 hour five week elective that has been taught at UCSF since 1993. It is a 1.0 credit hour course. The course’s innovative educational strategy is based on a discovery model. The Healer’s Art addresses the hidden crises in medicine: the growing loss of meaning, satisfaction, and commitment experienced by physicians nationwide. It consists of five three-hour evening sessions spaced within five weeks, each divided into large-group and small-group experiences.

IDC 797 Directed Independent Research (Elective) (1 credit hour)

Students work with a faculty research mentor during the spring semester to develop a research proposal that is typically carried out during the summer before Component II.

Component II - Second Year

In the second year, students continue learning basic science along with clinical medicine. The second year is organized as a series of organ system-based courses, each presented by a multidisciplinary team of faculty members. Within each course, normal physiology and histology of the system are presented along with the pathology of common diseases, and the medical and pharmacologic approaches to diagnosis and treatment. Each course uses a variety of formats, including case presentations, lectures, small group discussions, laboratory sessions, computer-aided instruction, and independent study. In addition, in the Applied Clinical Skills course, students use small group discussions to learn clinical reasoning and are assigned to a clinic for two half days per month to reinforce history and physical examination skills.

Appendix 2. Required M2 Courses.

Course #	Name	Cr Hrs	Wks	Lecture	Sm Grp	Labs	Other*	Clinical	Exam	Total Hours
IDC 201	Cardiovascular	4	5	74	2	9	4	0	4	93
IDC 203	Respiratory	3	3	40	0	2.5	1	0	3	46.5
IDC 205	Renal	3	3	39	0	4	3	0	3	49
IDC 207	Hem/Onc	3	3	48	0	8	3	0	5	64
IDC 209	GI	3	3	48	0	4	1	0	3	56
IDC 211	MSI	2	2	28	0	1	1	0	2.5	32.5
IDC 216	Endo/Repro	4	4	64	0	7	2	1	4	78
IDC 233	Infectious Disease	4	4	56	8	6	0	0	3	73
IDC 243	Behavior Medicine II	3	2	31	5	0	2.5	0	3	41.5
IDC 244	Behavior Medicine III	3	3	42	2	0	6	0	3	53
IDC 279	Case Studies in Medicine	2	32	1	30	0	0	0	0	31
IDC 290	Applied Clinical Skills	3	32	12	20.5	0	0	60	2	94.5
TOTAL		37	35	483	67.5	41.5	23.5	61	35.5	712
*includes multidisciplinary conferences, review and Q&A sessions										

IDC 201 Cardiovascular System (4 credit hours)

The course teaches the normal histology, embryology and physiology of the cardiovascular system, integrated with a consideration of cardiovascular abnormalities and appropriate therapy for these conditions.

This 4 semester hour interdisciplinary course surveys normal and abnormal function of the cardiovascular system. In conjunction with a discussion of the normal structure and function of the cardiovascular system, students learn the pathophysiology and pathology of the common disorders of the heart and vascular structures. Students also study the pharmacology and therapeutic principles of the common agents used in cardiovascular medicine. Clinical skill instruction includes interpretation of electrocardiograms, echocardiograms, and auscultation of the heart. Students also work through a series of clinical cases gaining experience in developing a differential diagnosis and management plan.

IDC 203 Respiratory System (3 credit hours)

The course will teach you the anatomy and physiology of the lungs and airways as well as the diagnosis and treatment of medical problems of the respiratory system including asthma, chronic obstructive pulmonary disease, neoplasms, thrombosis, and neonatal respiratory problems.

This three credit interdisciplinary course surveys normal and abnormal function of the respiratory system. After a discussion of the embryology and the normal structure and function of the upper and lower

respiratory system, you will study the pathology and pathophysiology and the common disorders of the respiratory system and the pharmacology and therapeutic principles of the common agents used in respiratory medicine. The course includes an introduction to environmental respiratory diseases. Clinical skill instruction includes pulmonary function measurement. Through study of clinical cases, you'll gain experience in developing a differential diagnosis and management plan.

IDC 205 Renal-Urinary System (3 credit hours)

The course teaches the anatomy and physiology of the kidney and urinary systems and the physiology of body fluid and electrolyte homeostasis. Additionally, it introduces the diagnosis and treatment of medical problems of the renal and urinary system including fluid and electrolyte disorders, glomerular and non-glomerular kidney disorders, acid-base disorders, chronic renal failure, renal and urinary tract neoplasms, voiding disorders, and renal stone disease.

This three credit interdisciplinary course surveys the normal functions and diseases of the kidney and urinary bladder.

- Phase 1 focuses on core concepts related to body fluids and normal human renal anatomy, histology, embryology and physiology.
- Phase 2 then builds upon this core knowledge by discussing renal pathophysiology, the tools utilized for clinical diagnosis of renal disease, the structural and functional manifestations of prevalent causes of renal disease, and the therapeutic strategies and pharmaceutical agents used by clinical nephrologists to treat renal diseases.
- Phase 3 switches the focus to the anatomy, structure, function, pathologies, and dysfunction of the urinary tract, and the therapeutic strategies and pharmaceutical agents used by clinical urologists to treat these diseases.

IDC 207 Hematology-Oncology (3 credit hours)

The course goal is to develop a basic understanding of the normal structure and function of the various components of the hematopoietic system including red blood cells, white blood cells and platelets. Be familiar with the neoplastic and non-neoplastic disorders of the red blood cells, white blood cells and platelets and understand the basic principles of common laboratory techniques used in diagnosing hematopoietic disorders. Develop an understanding of molecular basis of neoplasia, indications and toxicity of chemotherapeutic agents used in oncology.

This 3-semester hour course covers the normal and abnormal aspects of the hematopoietic system including anatomy, physiology, pathology, and clinical disorders of blood cells, bone marrow, lymph nodes, spleen and other lymphoid tissues. Other topics covered include hemostasis, thrombosis, cancer chemotherapy and transfusion medicine. Only an introduction to the discipline of oncology is included in this course. This course is divided into 4 blocks as follows:

BLOCK 1: INTRODUCTION/RBC & ANEMIA: This block includes 11 hours of lecture time. There is a Phlebotomy lab-part 1 and a histology lab.

BLOCK 2: PLATELETS & COAGULATION: This block includes 12 hours of lecture time, and 1 hour for MDC.

BLOCK 3: WBC/LEUKEMIA/LYMPHOMA & ONCOLOGY: This block includes 17 hours of lecture time, 1 hour for MDC, Phlebotomy lab- Part 2 (peripheral blood smear review) and small groups.

BLOCK 4: CANCER CHEMOTHERAPY & TRANSFUSION MEDICINE: This block includes 7 hours of lecture time, 1 hour for MDC and 1 hour for review session, Histopathology lab and small groups.

IDC 209 Gastrointestinal System (3 credit hours)

The course teaches the normal histology, embryology and physiology of the gastrointestinal system, integrated with a consideration of gastrointestinal system abnormalities and appropriate therapy for these conditions.

This three week interdisciplinary course consists of lectures, laboratories, small group discussions and a multi-disciplinary conference that provide learning experiences on the anatomy, histology, physiology, pathology and basic clinical medicine of the gastrointestinal system. It begins with embryology of the gastrointestinal system and progresses from the oral cavity distally through the gastrointestinal tract, combining basic sciences with relevant clinical material.

IDC 211 Musculoskeletal-Integument System (2 credit hours)

The course teaches the normal histology, embryology and physiology of the musculo-skeletal-integument systems, integrated with a consideration of musculo-skeletal-integument abnormalities and appropriate therapy for these conditions.

This is a two semester hour course in the second year of the medical curriculum containing instruction in the normal functions and diseases of the musculoskeletal and integumentary systems. The course will cover the normal histology, embryology and function of the two systems integrated with a consideration of musculoskeletal/integumentary abnormalities and appropriate therapy for these conditions. The course will consist of didactic instruction, clinical discussion, small group discussions, and a multidisciplinary conference. Reading assignments are meant as preparation for lectures and should be completed before class. Additional reading may be assigned at the beginning of each lecture.

IDC 216 Endocrine-Reproductive Systems (4 credit hours)

The course teaches the normal histology, embryology and physiology of the endocrine and reproductive systems, integrated with a consideration of endocrine/reproductive abnormalities and appropriate therapy for these conditions.

This four week interdisciplinary course consists of lectures, laboratories, small group discussions and multi-disciplinary conferences that provide learning experiences on the anatomy, histology, physiology, pathology, and basic clinical medicine of the endocrine and reproductive systems. The first two weeks focus on endocrine systems, beginning with the hypothalamic/pituitary axis, and continuing with the adrenal gland, calcium homeostasis, thyroid gland, the endocrine pancreas and homeostatic control of metabolism. Beginning in the third week, the focus shifts to male and female reproductive systems, including normal pregnancy and delivery and diseases of reproductive organs.

IDC 243 Behavioral Medicine II (3 credit hours)

The course goal is to enable students to gain a foundation of knowledge of DSM-IV psychiatric disorders for interacting with, assessing, diagnosing, and treating patients with psychiatric illnesses; to increase student understanding of, and ability to manage, the emotional, behavioral, psychiatric, and communications aspects of the clinical encounter with patients, and thereby prepare students for their clinical clerkships.

The course Behavioral Medicine II presents a series of lectures, with supplemental Problem-Based Learning cases, and required supplemental reading. The central purpose of the course is to enable students to understand the biological and psychosocial origins of psychiatric syndromes, their definitions and symptom features, and diagnostic criteria, as delineated in the Diagnostic and Statistical Manual of Mental Disorders- 4th edition, that is, DSM-IV. Students will be expected to gain an understanding of the role of genetics, growth and development, environmental and psychosocial risk factors, and personality as parts of the complex process that eventuates in psychiatric disorder in some individuals. Students will gain a foundation of knowledge for

assessing patients for psychiatric illness, interacting with them comfortably, diagnosing psychiatric illness, and making recommendations for pharmacological treatment and psychological therapies.

In addition to lectures, Behavioral Medicine II will focus on two Problem-Based Learning cases during small group sessions in order to present a virtual patient for assessment, diagnosis, and treatment, with each case meeting for two sessions. In addition, there will be a small group discussion of a notable short memoir of psychiatric illness, *Darkness Visible*, written by the late novelist, William Styron. There will be a quiz on the morning of Monday, Nov. 15, and a cumulative final exam on Monday, Nov. 22.

The Behavioral Medicine II course proceeds with the understanding that the student will apply knowledge gained in the first year in the Behavioral Medicine I course– the biopsychosocial systems perspective, human development, cognitive and emotional functioning, and normal human behavior. The readings and Problem-Based-Learning (PBL) cases assume knowledge in those areas, and hopefully, will contribute to the student’s ability to integrate knowledge of normal human development with the central focus of this course, psychopathology and psychiatric syndromes.

IDC 244 Behavioral Medicine III (3 Credit Hours)

The focus of the first part of the course is to help you learn about sleep and circadian rhythms, exercise, and environmental toxins, including alcohol. The next unit focuses on the medical implications of social marginalization. You will visit agencies that provide services to socially marginalized members of our community. In preparation for the site visits, you will research the populations served by the agencies. The third focus is application of behavioral and physical medicine to a variety of medical challenges, including chronic illness, chronic stress, brain injury, pain, and aging. The course ends with a special focus on Aging, organized by Dr. Viselav Drinčić from the Department of Medicine.

The Behavioral Medicine III course focuses on important and timely topics of medical concern:

- 1) multisystem health challenges whose effects can be ameliorated by behavioral change, including sleep disorders, sedentary lifestyle, and exposure to toxins, including alcohol.
- 2) the diverse social factors that impact the provision of health care, including cultural diversity, socioeconomic status (SES), poverty, and stigmatizing conditions that marginalize members of our society and predispose them to special challenges in maintaining health and receiving care.
- 3) coping with stress and chronic illness.
- 4) an introduction to care of the aging.

IDC 233 Infectious Diseases (4 credit hours)

Worldwide, infections cause more morbidity and mortality than any other disease, and increases in world travel now result in the transport of patients with exotic infections to our clinic doorstep. This course will help students understand the structures of individual organisms, their pathogenic potential, and diagnosis and treatment of the diseases they cause. It is also meant to set the stage and serve as a basis for understanding the infections taught in subsequent M2 system courses and encountered during clinical rotations.

This unit on Infectious Diseases is one of the first courses for second year medical students. The course uses lectures, laboratory exercises, and small group cases to help the students become familiar with the pathogenesis, epidemiology, diagnosis, treatment, and prevention of important bacterial, viral, fungal, and parasitic infectious diseases.

IDC 279 Case Studies in Medicine (2 credit hours)

The course helps the student develop the analytical skills to assess patients’ conditions and use clinical laboratory data to develop a differential diagnosis and treatment plan. Working as a group, students learn to work through a case from diagnosis to therapy to expected outcomes.

Case Studies in Medicine is a longitudinal course (meaning that it runs concurrently with the system courses) during the second year curriculum. It consists of a series of small group case exercises and multidisciplinary conferences. The content will follow the systems courses and in that sense this course is also vertical. The students are continually assessed throughout the year.

IDC 290 Applied Clinical Skills (3 credit hours)

This course is designed to prepare the M2 student for the 3rd year of medical school, by developing his or her history taking, interviewing, physical exam and clinical reasoning skills.

At the conclusion of this course, the student is expected to be proficient in **the basic** components of clinical reasoning and decision making, which include:

- Gathering clinical data, including conducting a patient interview
- Organizing clinical data
- Interpreting basic clinical data
- Hypothesis generation and testing
- Critical evaluation of alternative diagnostic and treatment strategies
- Engaging a patient in a therapeutic alliance
- Oral and written case presentations, which are important expressions of clinical reasoning skills

A clinical skill is a discrete and observable act of medical care. Clinical reasoning, as a clinical skill, is the process of making sense of a clinical encounter. Compare it to the job of a detective. When investigating a crime, the detective must pick up on clues and determine which ones are important (and which ones are not). The ability to discriminate between the two can be difficult. The best way to make this choice is through a combination of subject knowledge and experience. The mastery of good communication techniques is essential. This course is designed to introduce and reinforce the knowledge base needed to make clinical decisions and provide an opportunity to use clinical skills through interaction with experienced clinicians.

Component III - Third Year

(51 credit hours)

The third year comprises the core clinical clerkships (48 credit hours). Students are scheduled into one of six groups that rotate through clerkships in:

- IDC 301 Ambulatory Primary Care (8 weeks), an integrated clerkship that includes experiences in the departments of Family Medicine (4 weeks) and Internal Medicine (4 weeks)
- MED 301 Inpatient Medicine (8 weeks)
- PBS 301 Psychiatry (8 weeks)
- SUR 301 Surgery (8 weeks)
- PDT 301 Pediatrics (8 weeks)
- OBG 301 Obstetrics and Gynecology (8 Weeks)

Students must also satisfy the following additional requirements:

- attend all Junior orientation sessions
- attend the Dimensions of Clinical Medicine course - DCM 301 (3 credit hours), which covers various clinically important topics based on the six competencies and is presented on the fourth Friday of each clerkship
- be certified in Advanced Cardiac Life Support during Component III

Complete the Junior Clinical Competency Examination. Those students who do not pass the Junior Clinical Competency Examination must take and pass Advanced Physical Diagnosis - IDC 480 in their senior year to satisfy this requirement and to be eligible to take the USMLE Step 2 CS.

Component IV - Fourth Year

(36 credit hours)

The fourth year prepares students for residency and provides a chance to explore their own interests in specialized areas of medical practice. In the fourth year, each student selects at least 36 weeks of courses which must include;

- 1 surgical selective (4 weeks)
- 1 critical care selective (4 weeks)
- 1 primary care selective or 2nd critical care selective (4 weeks)
- an additional 24 weeks of clinical electives with no more than 8 weeks of non-clinical electives

During the fourth year a student must take and post a score for Step 2CK and Step 2CS of the USMLE prior to graduation.

Appendix 3. Clinical Skills and Behaviors Assessed in the Creighton Medical Curriculum

Component		I		II						III						IV
		Interview and Physical Examination	M1 Courses	M2 Organ System Courses	Applied Clinical Skills	Longitudinal Clinic and OSCE	Ambulatory Primary Care	Inpatient Medicine	Obstetrics and Gynecology	Pediatrics	Psychiatry	Surgery	Clinical Skills Day	Junior Clinical Competency Exam (JCX)	ACLS Certification	Surgery Selective Skills Exam
Core Clinical Skills																
Interviewing		✓			✓	✓				✓	✓			✓		
Interpersonal		✓			✓	✓				✓	✓	✓		✓		
History	HPI	✓			✓	✓	✓			✓	✓			✓		
	PMH	✓			✓	✓	✓			✓	✓			✓		
	FH	✓			✓	✓	✓			✓	✓			✓		
	Health Issues	✓			✓	✓	✓			✓	✓			✓		
	Psychosocial History	✓			✓	✓	✓			✓	✓			✓		
	ROS	✓				✓	✓			✓				✓		
	Pediatric Hx	✓								✓						
Physical Examination	Vital Signs	✓				✓	✓	✓		✓		✓		✓	✓	
	Head, Ears, Nose and Throat	✓				✓	✓	✓		✓		✓				
	Neck and Shoulders	✓				✓		✓		✓		✓				
	Upper/lower extremities	✓				✓		✓		✓		✓	✓	✓		
	Thyroid/trachea	✓				✓		✓		✓		✓				
	Chest: Lungs	✓		✓		✓		✓		✓		✓		✓		
	Chest: Heart	✓		✓		✓		✓		✓		✓		✓		
	Breast	✓				✓			✓	✓		✓				✓
	Abdomen	✓				✓		✓		✓		✓		✓		
	Vascular	✓		✓		✓		✓		✓		✓		✓		
	Cranial Nerves	✓	✓			✓		✓		✓				✓		
	Neurologic	✓	✓			✓		✓		✓		✓		✓		
	Mental Status	✓			✓	✓		✓			✓			✓		
	Rectal - Male	✓										✓	✓			✓
	Pelvic/rectal - Female	✓							✓	✓		✓				
	Male Genitourinary	✓								✓		✓				
	Pediatric PE									✓						

Component		I		II				III							IV	
		Interview and Physical Examination	M1 Courses	M2 Organ System Courses	Applied Clinical Skills	Longitudinal Clinic and OSCE	Ambulatory Primary Care	Inpatient Medicine	Obstetrics and Gynecology	Pediatrics	Psychiatry	Surgery	Clinical Skills Day	Junior Clinical Competency Exam (JCX)	ACLS Certification	Surgery Selective Skills Exam
Core Clinical Skills																
Technical Skills	Venipuncture/ blood cultures			✓									✓			
	CPR														✓	
	Mask/Bag/ Ventilation														✓	
	Ventilator Management											✓				
	Intubation														✓	
	Hemodynamic Monitoring			✓								✓				
	ECG Interpretation			✓		✓		✓							✓	
	Pap smear & Cultures								✓							
	Wound Closure/ Suture /Knot tying											✓				✓
	Suture Removal											✓				
	Dressing Changes											✓				
	Foley Catheter Insertion (♂ and ♀)											✓	✓			✓
	Wet Mount Interpretation															
	Unanalysis interpretation			✓			✓	✓	✓							
	Chest X-Ray Interpretation			✓		✓									✓	✓
	Abdominal X-Ray Interpretation														✓	✓
Communication: Written	Hx/PE	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓		
	Progress Notes or Writing Orders	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Communication: Oral	Presentations						✓	✓	✓	✓	✓					
	Information Given to Patient	✓				✓	✓	✓	✓	✓	✓			✓		
Other Skills	Clinical Reasoning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
	Data Gathering and Interpretation	✓			✓	✓	✓	✓	✓	✓	✓			✓		
	Bibliographic Search		✓					✓								
	Critical Appraisal of Medical Literature		✓					✓				✓				

M3 & M4 Duty Hour Policy

1. Duty periods of M3 and M4 students may be scheduled to a maximum of 24 hours of continuous duty in the hospital. It is essential for patient safety and medical student education that effective transitions in care occur. Students may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.
2. Medical students must have 14 hours free of duty after 24 hours of in-house call.
3. Medical students must not exceed 80 hours per week, averaged over a four week period.
4. Medical students must have one day free of duty in seven, averaged over a four week period.

Assessment of Student Performance

Students are assessed in cognitive, affective, and psychomotor domains in all courses with an emphasis on formative evaluation throughout the course providing frequent feedback to the student. Examinations and quizzes are coordinated in all components. Honors/Satisfactory/Unsatisfactory grading is used in all courses; written and narrative assessment of students is provided where appropriate. Students are evaluated individually against curriculum standards and are not ranked. The United States Medical License Examination (USMLE) Step 1 must be passed before promotion into Component III. Taking both parts of the USMLE Step 2 is required to complete Component IV.

Evaluation of the Curriculum

Ongoing evaluation of all elements of the curriculum is essential to maintain continuous improvement of the curriculum. Evaluation of the curriculum is performed by students, faculty and staff. The process is coordinated by the staff of the Office of Medical Education and is performed by the Evaluation Committee. The Evaluation Committee (five faculty and two students) is responsible for the assessment of all required courses and clerkships. The Evaluation Committee reports to the Educational Policy Committee, which has overall responsibility for management of the curriculum. The Evaluation Committee conducts continuous assessment of preclinical courses (Components I and II) and clerkships (Component III).

For each course and clerkship students complete an evaluation of the course/clerkship, and for Component I and II assessment of faculty is also done. These data are provided to course faculty, course/clerkship directors, and department chairs.

The Evaluation Committee meets monthly. The committee determines which courses or clerkships to evaluate and what data are needed, including but not limited to;

- course or clerkship syllabus and handbook materials
- student evaluations of a course or clerkship
- evaluation and grading methods
- student performance in a course or clerkship
- interviews with faculty and staff involved with the course/clerkship
- annual course/clerkship report (The course/clerkship director must submit a response to a series of course assessment questions within 2 months of the end of the course)

The final report is distributed to the course director and to the Educational Policy Committee at its regular monthly meeting. The Committee accepts the findings and recommendations of the Evaluation Committee or asks for a response from the course/clerkship director. After resolution of all outstanding issues, the amended report is approved by the EPC and sent to the course director for implementation of the recommendations.

The Educational Policy Committee monitors the curriculum by examining course, clerkship and component assessments provided by the Evaluation Committee. The Evaluation Committee performs program evaluation using data from the AAMC Graduation Questionnaire and surveys of first year residency program directors. Program evaluation is also aided by examination of USMLE Step 1 and 2 scores. Clinical skills are measured throughout the yearly components. Clinical skill measurement culminates in a comprehensive assessment at the end of Component III. Those students failing this comprehensive clinical assessment are required to enroll in the Component IV Advanced Physical Diagnosis Course to assure clinical competence.

**Protocol for a Positive Learning Environment
at
Creighton University School of Medicine**

The mission statement of Creighton University states: “Creighton exists for students and learning.” Thus, it is vital to create a positive learning environment for students (learners) at all levels of education (including undergraduate students, graduate students, medical students, hospital residents, and fellows). Mistreatment, harassment, and abuse of students are not only unprofessional, but are also antithetical to the Creighton mission. Unacceptable behaviors, actions, or expressions that demean, degrade, harass, or threaten students include (but are not limited to):

- Inappropriate physical contact, physical attacks, or acts of violence
- Physical or verbal threats
- Verbal harassment
- Sexual harassment or discrimination
- Ethnic, racial, or religious harassment or discrimination
- Slurs or belittling or degrading comments or humor
- Written epithets, graffiti, or similar expressions
- Public belittling or humiliation [Indicating inadequate preparation of assignments is not mistreatment unless done in an inappropriate manner.]
- Mandated performance of personal services (e.g., baby sitting, shopping)

The University's Harassment and Discrimination Policy 2.2.3, found at:

www.creighton.edu/fileadmin/user/president/doc (the "Policy") lists other behaviors and actions that are also unacceptable at Creighton University. The Policy should be consulted along with this Protocol.

Relationships with other students, staff, faculty, and patients (see University Policy 2.2.5, found at the link above, which states as follows:

- Creighton University desires to foster relationships among its members and with others that are based on dignity and respect, and are free from discrimination. By selecting and utilizing the educational programs of Creighton University, students have demonstrated confidence in the University. In their personal dealings with students, University employees are representatives of the University and are expected to exemplify its Christian and educational values. It is incumbent upon all those who are in positions of authority over students not to abuse, or seem to abuse, the power with which they are entrusted.
- Inappropriate personal relationships between employees and students may have the effect of undermining the atmosphere of trust and mutual respect upon which the educational process depends. Particularly troublesome are romantic relationships. Even when both parties have consented to such a relationship, it is the employee who holds a position of special responsibility within the University. It is the employee, therefore, who will be held accountable for unprofessional behavior.
- Employees should be aware that a romantic relationship with a student may render them liable for disciplinary action if the relationship creates, reasonably has the potential to create, or reasonably appears to create a conflict between the employee's personal interest and the employee's obligations to the University and its students.
- Because residents, fellows, tutors, and teaching assistants may be less accustomed than other employees to thinking of themselves as possessing professional responsibilities, they should be particularly sensitive and exercise special care in their relationships with students whom they instruct or evaluate.

Reporting of mistreatment or abuse:

- Mistreated or abused students or any observers of mistreatment or abuse should report incidents as soon as possible.
- Reports of incidents should be made to either the Associate Dean for Student Affairs (402-280-2905) or the Associate Dean for Graduate Medical Education (402-280-4677). Reports of sexual harassment or discrimination can also be made to the Chair of the Creighton University Harassment and Discrimination Committee (402-280-2360), the Affirmative Action Director

(402-280-3084), the Human Resources Director (402-280-2709), the individual's supervisor, or their supervisor's supervisor. See Harassment and Discrimination Policy.

- All attempts will be made to maintain confidentiality and to protect students from harm or retaliation; any form of retaliation following the reporting of mistreatment or abuse is forbidden and complaints of retaliation will be dealt with by the Dean of the School of Medicine, the Associate Dean for Student Affairs, the Associate Dean for Graduate Medical Education, or by the Human Resources Director, as appropriate
- Any complainant or witness found to have been dishonest or malicious in making an allegation of mistreatment will be subject to disciplinary action.

Administrative actions related to mistreatment or abuse:

- The Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education will discuss the incident(s) with the Chair of the involved department or the Director of the Hospital division or clinic and require a prompt investigation and appropriate action. All such matters will also be reported to the University's Affirmative Action Director, the Human Resources Director, and the Vice President for Student Services, as appropriate.
- The departmental Chair or Hospital division or clinic Director will prepare a written report concerning the investigation and the action taken, which will be given to the Associate Dean for Student Affairs or the Associate Dean for Graduate Medical Education, who will then discuss the report with the reporting student(s). All such reports will also be provided to the University's Affirmative Action Director, the Human Resources Director, and the Vice President for Student Services, as appropriate.

Agreement:

I have read and understand this document and agree to create a positive learning environment at Creighton University School of Medicine.

_____ Date: _____
Faculty, House Staff, or Staff Member Signature

Reviewed General Counsel 3/10/11