

The NEXT CURRICULUM: COMPONENTS and “Day in the Life” Scenarios

Statement of Overall Curricular Purpose

The College of Human Medicine has a long history of innovative curriculum creation and implementation. Starting in 2011 the Curriculum Committee has led an effort to imagine a new curriculum. They started by endorsing the overall competency structure of the college and then created a number of principles to guide the creation of the new curriculum.

Principles

There were two groups of principles that the Curriculum Committee adopted. The first group is the core principles and is not topic specific. The “below the line” principles are more topic-specific and reflect areas that the Curriculum Committee was afraid might be lost or forgotten in a new curriculum effort.

Adult Learning/Student centered

- Self assessment, self directed study, modular
- Practice, practice, practice
- Individualized learning plan

Competence and excellence

- Achieve starting ACGME competencies* but have opportunities for students to excel
- Spirit of inquiry
- Critical thinking

Rational instructional design

- Methodology follows objectives which follow goals
- Coherent assessment system
- Developmentally sequenced
- Reinforcement

Humanism

- Biopsychosocial for patient and physician
- Pluralism (diversity, respect, etc)

Integration

- Basic and Clinical Science throughout curriculum
- Early clinical experience

Patient centered

- Early clinical experience, reflection, communication, outcomes
- Individualized medicine

Faculty Development link to the curriculum

Community Medicine

- Public health, community needs assessment
- Health policy
- Interprofessional
- Population/Public Health/Preventative Med.

Chronic Disease

Compassion, empathy
 Innovative use of technology
 Problem based
 Cultural competence
 Healthcare disparities
 Future oriented
 LCME accreditation standards
 Multidisciplinary programming
 Safety Science
 Continuous quality improvement model
 Teamwork including working with multidisciplinary health care workers (nurses, resp Rx, social service, community health workers, med techs, etc)
 Leadership

Admissions

The Design Group presumes that admissions policies, practices, and mission do not change with the new curriculum. The college will continue its interest in a diverse class well represented by students from non-traditional and disadvantaged backgrounds.

The Curriculum

Assessment		Learning Strategies	
Formative Assessment	Gateway System	Clinical Experiences (real and simulated)	Academy
<ul style="list-style-type: none"> • OSCE in clerkships • Comprehensive Basic Science Exam • Portfolio review • 360 Evaluation 	<ul style="list-style-type: none"> • OSCE prior to transitions • Progress exam • Portfolio 	Early (Be Useful) <ul style="list-style-type: none"> • Basic Skills • Working with patients • Intro to Chief Complaints Middle (Do More) <ul style="list-style-type: none"> • Ambulatory Setting • Hospital Setting Late (Capstone) <ul style="list-style-type: none"> • Disciplinary Clerkships • Electives Longitudinal Patient Experience <ul style="list-style-type: none"> • Shared panel of patients • Individual panel of virtual patients • Community experience 	<ul style="list-style-type: none"> • Preparation for clinical experiences • Didactics and small groups for necessary science and humanities. • Mentoring and advising for certificates, scholarship, careers. • Comprised of designated faculty with significant protected time for teaching.

Assessment Strategy

From the first days of the curriculum, and at regular intervals throughout a learner’s trajectory, a suite of assessments will enable students and their faculty to verify learners’ achievement of

competence and readiness to progress. Medical education has traditionally relied on multiple choice questions and general faculty observations to make decisions of promotion. The curriculum described here will utilize a group of assessments that will include the traditional multiple choice examinations associated with a professional education but will not stop at the determination of what our learners “know.”

Examinations of actual performance with standardized patients, patient simulators, virtual patients as well as the ratings of their faculty, peers, health care team members and actual patients will enable us to detail what our learners can “do.” Portfolios of evidence containing essays, videos, reflections, scholarly products and projects will be regularly reviewed by faculty to assure that acquisition of the necessary knowledge, skills and attitudes is taking place, and that learners can receive anticipatory guidance to achieve not only competence, but excellence. Ongoing data flow from these multiple types of assessments will assure that everyone, and everything, knows how to get better. The curriculum will begin with a baseline “Gateway Assessment” that will provide appropriate placement into various parts of the curriculum. Students with particular strengths (perhaps a strong basic science or clinical background) and weaknesses (perhaps a time away from formal schooling or an atypical college major) will start in different places and progress according to their performance on successive Gateway Assessments.

Learning Strategies

Clinical Experiences

Principles: Adult Learning/Student centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient centered, Faculty Development link to the curriculum

This curriculum rapidly immerses students in a series of real, longitudinal clinical experiences that provide an authentic trajectory of training and progressively increased responsibility. The progression has 4 parts:

1. Early Clinical Experience
2. Middle Clinical Experience
3. Late Clinical Experience
4. Longitudinal Clinical Experience

Throughout the series of Clerkships, students will be studying the underlying necessary science including public health principles related to each topic or task by engaging in Necessary Science Modules (see later description).

Early Clinical Experience (3-4 half days a week)

Principles: Adult Learning/Student-centered, Competence and excellence, rational instructional design, Humanism, Integration, Patient-centered, Faculty Development link to the curriculum

This has three portions. All will take place in an outpatient setting where students will first learn BASIC SKILLS: how to room patients, establish rapport, obtain the reason for the visit, take vitals, and perform immunizations, diabetic foot checks and other medical assistant duties. They will progress to MODERATE SKILLS that include patient education, phone follow up, medication reconciliation, smoking cessation and nutritional

counseling. ADVANCED SKILLS will engage learners in seeing patients with common chief complaints.

Middle (Ready for More) Clinical Experience_(12 weeks, 5 half days/wk)

Principles: Adult Learning/Student-centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient-centered, Faculty Development link to the curriculum

This curricular component consists of non-disciplinary (primary care) rotations in the outpatient and inpatient setting. Students will see patients, present to residents and attendings, and do focused history and physical examinations. They will encounter patients with common acute and chronic diseases and extend and expand their knowledge and clinical skills. They will see a small number of patients each day with several half days a week spent in small group study, independent study, work in the simulation and skills laboratory and doing other projects within the Academy.

Late Clinical Experience (Disciplinary Clerkships and Electives)

Principles: Adult Learning/Student centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient-centered, Faculty Development link to the curriculum

After the first two portions of the clinical experiences, students will engage in disciplinary clerkships, spending 4 to 8 weeks on rotations in Internal Medicine, Family Medicine, Pediatrics, Obstetrics and Gynecology, Surgery, Psychiatry, Neurology and Emergency Medicine. These rotations will enable students to bring considerable patient care experience to a specialty-driven population of patients and their problems. Determination of the clinical setting will depend of the focus of the clerkship. Students will engage in electives which will enable them to explore and expand upon their experiences from the disciplinary clerkships.

Longitudinal Medical Home

Principles: Adult Learning/Student centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient centered, Faculty Development link to the curriculum

The current curriculum includes the Longitudinal Patient Centered Experience in which pairs of students meet with a chronically ill patient about 10 times over two years. The curriculum design group imagines a larger experience in which a group of students have a larger panel of patients for nearly their entire curriculum. It is not practical for students to provide actual clinical care for these people, but the students could engage in helping their patients through barrier to care and accessing community services. The experience would also include 20-50 virtual patients whose clinical concerns students would address through simulation.

Academy

Principles: Adult Learning/Student-centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient-centered, Faculty Development link to the curriculum

The intellectual home for students, the Academy enables the development of relationships with fellow students and with a number of faculty fulfilling different roles. Students will be assigned advisors who will review student portfolios and guide individualized learning plans so that students can achieve their potential. Module preceptors and small group facilitators, research project and certificate mentors exist within the Academy. The Academy will enable specialized faculty development to support the goals of the curriculum.

Students obtaining special certificates, such as a Certificate in Public Health, would engage in augmented course work from the applicable program (such as the MPH program), develop and complete a project, and provide community service. These certificates would be coordinated through the Academy.

The Academy provides relationships and individualized learning plans (ILP) for students. Students are assigned to faculty as advisors (to create the ILPs) but also to faculty who precept the modules and small groups the student is doing related to their clinical experiences. Students will not always have the same faculty for each of their groups, and the student participants of the groups will change depending on the students who are working on the module or domain.

PreMatriculation Modules

Principles: Adult Learning/Student-centered, Competence and excellence, Rational instructional design

An initial curricular component could be a set of Necessary Science modules drawn from traditional basic sciences (like anatomy and physiology) and less traditionally-emphasized sciences like epidemiology and implementation science. These modules could include foundational public health, allowing learners to use the lens of population medicine whenever they approach a health-related topic or challenge. Incoming students could “test out” of modules or choose to refresh previously-learned material by participating in them.

Preparation for Early Clinical Experience and subsequent clinical experiences

This component imparts the knowledge and skills necessary to be safe within a clinical environment, to accomplish basic communication and interview tasks, the basic physical examination, and foundational concepts of interventions. *Public health principles of social justice, health disparities, access to health, social determinants of health and public health assessment and intervention tools* will form an important part of this preparatory component. A Gateway Assessment will determine each student’s readiness to move into successive components.

Intersessions - Advanced Knowledge

Principles: Adult Learning/Student-centered, Competence and excellence, Rational instructional design, Humanism, Integration, Patient-centered, Faculty Development link to the curriculum

Intersessions will be small group based components designed to help students integrate an understanding of and facility with necessary science and intellectual skills as well as

to provide dedicated time for board examinations. Intersessions will also provide students with the time to begin to focus on areas of expertise through the certificate program. Research, scholarship, remediation or advanced study can be accommodated during intersession time, as can licensure exam preparation.

The periodic Gateway Assessments will inform learners and their faculty advisors of strengths and weaknesses and will enable the choice of tailored intersession topics to enable mastery. This group of intersessions should be directed at preparing the students for the Middle Clinical Experience, but the intersessions include overt USMLE Step 1 preparation. (Students do two-week selectives.)

“A Day in the Life” Scenarios

Early Clinical Experience

Prerequisites: Prematriculation Modules/Gateway Assessment and ILP

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Clinical experience	Longitudinal Exp/VP ----- Independent Study	Clinical Experience	Simulation/ Computer exercises	Clinical Experience
PM	Post Clinic Group ICC or TBL or PBL ----- Independent Study	Assessments: Written examinations/	Post Clinic Group ICC or TBL or PBL ----- Independent Study	Independent study	Post Clinic Group ICC or TBL or PBL ----- Portfolio review and Individual Learning Plan

Middle Clinical Experience

Prerequisites: Prematriculation Modules/Gateway Assessment and ILP/ Early Clinical Experience

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Clinical experience	Longitudinal Exp ----- Independent Study	Clinical Experience	Simulation/ Computer exercises	Clinical Experience
PM	Post Clinic Group ICC or TBL or PBL ----- Independent Study	Assessments: Written examinations/	Post Clinic Group ICC or TBL or PBL ----- Independent Study	Independent study	Post Clinic Group ICC or TBL or PBL ----- Portfolio review and Individual Learning Plan

Late Clinical Experience

Prerequisites: Prematriculation Modules/Gateway Assessment and ILP/ Middle Clinical Experience/ Gateway

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	Clerkship Experience	Clerkship Experience	Clerkship Experience	Clerkship Experience	Clerkship Experience
Afternoon	Clerkship Experience ----- Post Clinic Group (TBL)	Clerkship Experience	Medical Home OR Virtual Practice activities OR Interprofessional Experiences	Clerkship Experience	Clerkship Experience/ Personal Learning Planning with peers and faculty

Where do faculty fit?

The fundamental challenge for a curriculum as integrated as the one outlined above is to be both learner centered and faculty friendly. If this were a medical school with one student per class, it would be possible to walk the student from their clinical experience to the faculty member who could help them with whatever content or skills they needed to improve. Obviously, that is not possible with a class of 200 students. But the curriculum does have a series of manageable roles for faculty to fill.

Curriculum design – Each component of the curriculum will need faculty content experts to determine content and delivery. Currently, we use Curriculum Design Groups in each domain of the PBL series in Block II. It is easy to imagine similar groups for the clinical experiences and the intercessions.

Small/Large group work – This outline of the curriculum includes a mixture of methodologies that require faculty expertise. Team-Based Learning (TBL) and ICC (Integrated Clinical Correlations, imagine rounds as Osler would have done them) are both interactive, large group sessions that should include active learning. Running these sessions requires technical skill and content expertise but should be rewarding for students and faculty. Most of these sessions will be paired to student clinical experiences.

Asynchronous Content – Student attendance at lectures is pretty low, which takes much of the faculty enjoyment out of lecturing. Material that has been delivered through lecture still needs to be available to students, but the new curriculum will look to on-line modules, brief on-line lectures, readings, and other asynchronous methods to provide this content to students. Faculty would create and update this content.

Precepting – Students will still need faculty preceptors as they always have. For the earliest clinical experiences the preceptors may be Medical Assistants, Nurses, and Medical Home Case Managers, but the bulk of the precepting will still require physicians.

Simulation and labs – The new curriculum will greatly expand the simulation and skills labs in the curriculum. With high fidelity simulators, it is possible to bring back the old “dog lab” experience without sacrificing animals.

Mentorship – What can we say, students will still need mentorship.

Next Steps

Work will expand on the curriculum in the next several months. The design calls for competency in core concerns and complaints across the curriculum, and a few work groups have started pilot work on blood pressure, abdominal pain, and breast cancer. The Curriculum Committee is looking to begin doing feasibility pilots for particularly challenging clinical experiences of the curriculum as well. Look for a design team to begin work for pilots that could happen this coming summer.