

# Curriculum Renewal Faculty Assembly

Handouts

December 16, 2010

# Executive Summary - 1

## Changes in the Overall Curriculum

- New organization structure drives integration, cohesive management of a 4-year curriculum and increased accountability to and ownership of the overall educational enterprise
- More robust transitions: Orientation/Early Immersion, Transition to Clerkship and Transition to Residency
- Integrated biomedical science and clinical medicine
- More robust 4<sup>th</sup> Year and more integrated biomedical science in the clinical years, enabled by April clerkship start date
- Increased use of “adult learning” methods to drive integration and lifelong learning
- Competency-based curriculum and assessments
- Pass/Fail/Conditional grading system in Foundations years; clerkship, course and elective grading system (H/HP/P/C/F) remains the same

# Executive Summary - 2

## Changes in Foundations of Clinical Medicine (Pre-clerkship)

- Normal and abnormal are combined in each unit
- Units responsible for ALL competencies, including those clinical competencies previously taught in ECM
- More joint biomedical science /clinical design and teaching through integrated cases
- Common “look and feel” across units
- Starts in August; ends in April second year

## Changes in Core Clinical Medicine (Clerkships)

- 12-week structure enables efficient scheduling across clerkships and sites
- More joint teaching across clerkships where appropriate
- Increased focus on learning objectives and assessment
- Increased biomedical science in clerkships

## Changes in Advanced Clinical Medicine (4<sup>th</sup> year)

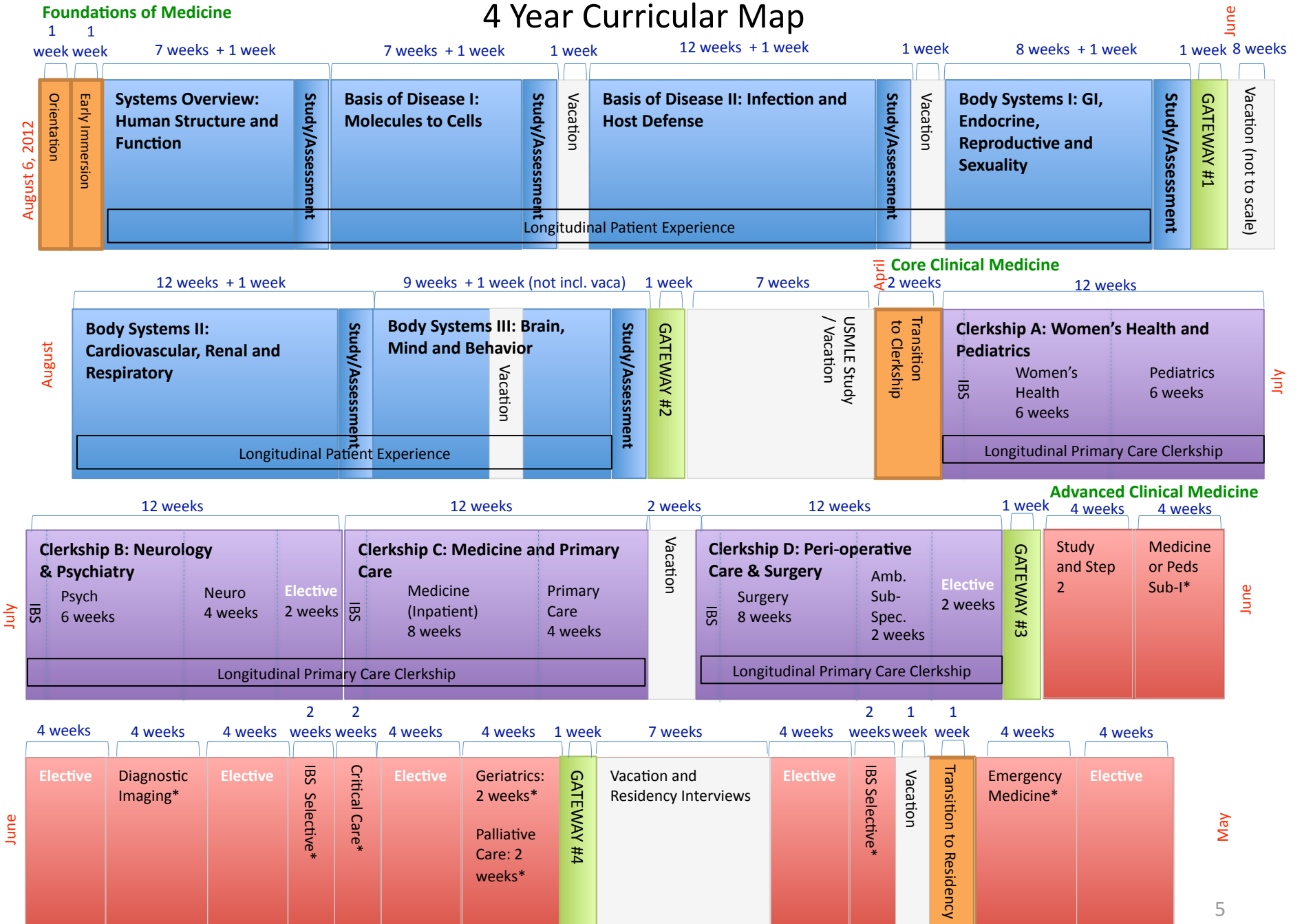
- More required elements
- 20 weeks of elective time with some requirements
- Dedicated time for study for USMLE Step 2 and Interviews

# Executive Summary - 3

## Changes in Content

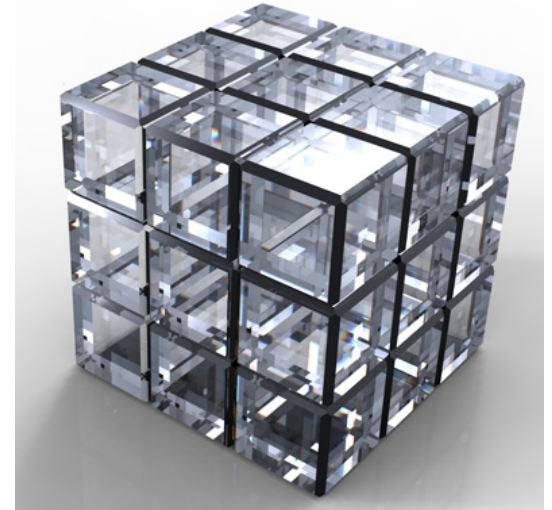
- Increase in Integrated Biomedical Science in clerkships and 4<sup>th</sup> year required elements
- Three initial 4-year threads in ***Geriatrics, Nutrition and Patient Safety***
- Primary Care changed to a 4-week Clerkship plus Longitudinal component in 3<sup>rd</sup> year
- Anesthesia and Surgery included in Peri-operative Care and Surgery Clerkship
- New 4<sup>th</sup> year requirements in Diagnostic Imaging (4), Geriatrics/Palliative Care (2/2), Emergency Medicine (4) and Critical Care (2)

# 4 Year Curricular Map



IBS = Integrated Biomedical Science / \* Required elements in Advanced Clinical Medicine Years/ Threads are included in all four years (Geriatrics, Patient Safety, Nutrition)

# “ICE cube” concept



- “ICE” = *Integrated Curricular Exercises*
- “Cube” represents one course segment viewed from 6 perspectives (the 6 domains of competence).
- During a time span of 1-2 weeks in a Foundations unit, course elements teach all 6 domains, but all are thematically related.
- A unit consists of a series of cubes that build on each other.
- Long-term continua spanning cubes (and spanning units) include patient contact and faculty mentoring in small group.
  - Regular small group sessions with cases define the cube’s subject and integrate all domains, under clinical *and* basic scientist facilitation.
  - Other sessions provide foundation and extension.

# Key teaching methods for Foundations units

- **Interactive Lectures** — To “explicate difficult material, emphasize key concepts and principles, introduce unique disciplinary perspectives that could not be readily obtained through reading or independent study, and provide an organizational structure on which to build new learning.” Interaction (e.g., clicker questions) increases involvement.
- **Laboratory-based exercises** — To emphasize problem solving using small group methodologies. May cross existing discipline boundaries.
- **Virtual microscopy exercises** — May be in-class or on-line interactives.
- **Radiology Exhibit Exercises** — Small-group imaging-based problem-solving.
- **Team-Based Learning** — Teacher-centered technique for whole class working in teams, in place of older interactives and some lectures. Emphasizes out of class preparation.
- **Facilitated Small Group Case-Centered Learning** — Student-centered discovery learning with clinical or basic science facilitator, or both, as appropriate. Emphasizes clinical reasoning, relevance of science to medicine, lifelong learning skills, and long-term close mentoring.
- **Mentored Small Group Clinical Skills Training** — Teacher-centered extension of small groups (above) emphasizing patient-care competencies.
- **Asynchronous Research and Writing Assignments** — Periodic written products including reflective essays and patient write-ups (etc.) for formative assessment.
- **Real and simulated patient contact** — Doctor’s office continuum, in-class patient contact, standardized patients, computer simulations (DxR Clinician), physical simulation. For teaching and formative assessment.

# Prototype “Ice Cube” Unit in Foundations

IHD Wk 1	Monday	Tuesday	Wednesday	Thursday	Friday	KEY
	December 10, 2012	December 11, 2012	December 12, 2012	December 13, 2012	December 14, 2012	
	B cells/infection cube	B cells/infection cube	B cells/infection cube	B cells/infection cube	B cells/infection cube	
9:00 AM	Interactive Lecture: The adolescent & adolescent interview (2,3,4)	Interactive Lecture: Natural history of infection; constitutive and induced defenses (1)	Interactive Lecture: Antibodies and humoral effector functions. (1)	Interactive Lecture: Lymphocyte development and generation of receptor diversity. (1)	Formative Assessment: MCQ and virtual lab practical	Interactive Lecture
9:30 AM						TBL
10:00 AM	Facilitated Small Group: Septic arthritis in a 15-year-old Session 1 (Group SP in 1st hour; learning issues & research assignments in 2nd hour) (1,2,3,4,5)	Interactive Laboratory: Intro to infectious agents (1,3,5)	Facilitated Small Group: Septic arthritis in a 15-year-old Session 2 (Discussion of research topics, progression of case) (1,2,3,4,5)	Interactive Laboratory: Antibody assays (1,3,5)	Interactive Lecture: B Cell response to antigen (1)	Laboratory
10:30 AM						Radiology Exhibits
11:00 AM						Small group
11:30 AM						Doctor's Office
12:00 PM	Break	Break	Break	Break/travel	Break	Asynchronous Activity
12:30 PM						Formative Assessment
1:00 PM	Interactive Laboratory: Histopathology of the lymphatic system (normal and inflammatory) (1,3,5)	Team-Based Learning: Inflammation and bacterial infections (1,2,3,5)	Simulation lab: arthrocentesis (live for subset; synchronous distance learning for rest) (2)	Protected time for preparation and asynchronous assignments	Team-Based Learning: EBM of joint fluid analysis (1,2,3,5)	
1:30 PM						
2:00 PM			Doctor's Office (assignment: practice lower limb ms exam on 2 pts & talk to pt about joint complaints present and past) (2,3,4)			
2:30 PM						
3:00 PM	Protected time for preparation and asynchronous assignments	Protected time for preparation and asynchronous assignments	Travel/Protected time for preparation and asynchronous assignments	Protected time for preparation and asynchronous assignments		
3:30 PM						
4:00 PM						
4:30 PM						
Asynchronous	Video: musculoskeletal exam review (begin) (2)		Visit sim lab: arthrocentesis (begin) (2)	Virtual microscopy of synovial fluid slides (begin) (1)		
Domains of Competence	1=Medical Knowledge, 2=Clinical Skills, 3=Communication Skills, 4=Professionalism, 5=Lifelong Learning and Problem Solving, 6=Social and Community Context of Health Care					

# Prototype “Ice Cube” Unit in Foundations

IHD Wk 2	Monday	Tuesday	Wednesday	Thursday	Friday	KEY		
	December 17, 2012	December 18, 2012	December 19, 2012	December 20, 2012	December 21, 2012			
	B cells/infection cube	B cells/infection cube	B cells/infection cube	B cells/infection cube	B cells/infection cube			
9:00 AM	Interactive Lecture: Bacterial infections (1)	Interactive Laboratory: Bacterial genetics and antimicrobial drugs (1,3,5)	Interactive Lecture: Bacterial infections (2)	Interactive Lecture: Inflammatory mediators (1)	Formative Assessment: DxR Clinician case on bacterial infection and therapeutics	Interactive Lecture		
9:30 AM							TBL	
10:00 AM	Facilitated Small Group: Septic arthritis in a 15-year- old Session 3 (Case resolution in 1st hr; physician-pt issues in 2nd hr) (1,2,3,4,5)		Mentored Small Group: Biopsychosocial model of disease, emphasizing infection. Prepare for Dr's office interviews & reflective essay (1,2,3,4,5,6)	Interactive Laboratory: Histopathology of inflammation and tissue repair (1,3,4,5)	Team-Based Learning: Fever, integrating physical diagnosis & therapeutics (1,2,3,5)	Laboratory		
10:30 AM								
11:00 AM			Break				Small group	
11:30 AM						Doctor's Office		
12:00 PM	Break	Team-Based Learning: Bacterial infections and therapeutics I (1,2,3,5)	Break	Break/travel	Break	Asynchronous Activity		
12:30 PM							Formative Assessment	
1:00 PM	Interactive Lecture: Antimicrobials (1)		Team-Based Learning: Bacterial infections and therapeutics II (1,2,3,5)	Dr's. Office (interview 2 or more patients on history of infections & their theories of causation) (2,3,4,6)	Followup on Tuesday Lab (1,3,4,5)	Protected time for preparation and asynchronous assignments		
1:30 PM								
2:00 PM	Protected time for preparation and asynchronous assignments						Protected time for preparation and asynchronous assignments	Travel/Protected time for preparation and asynchronous assignments
2:30 PM								
3:00 PM								
3:30 PM								
4:00 PM								
4:30 PM								
Asyn- chronous		Writeup of case due (1,2,3,5)	doc.com on biopsychosocial model (1)					
Domains of Competence	1=Medical Knowledge, 2=Clinical Skills, 3=Communication Skills, 4=Professionalism, 5=Lifelong Learning and Problem Solving, 6=Social and Community Context of Health Care							

# Examples of formative assessments for Foundations units

- Medical knowledge
  - MCQ quizzes, TBL, anatomy/imaging practicals, clicker questions in lectures
- Patient Care
  - Practice H&P on peers & pts in Dr.'s office, group SP, video clips w/questions, MCQ on techniques, mentor evaluation
- Lifelong learning
  - EBM exercises, essays on journal club articles
- Communication skills
  - Role plays, group SP, video w/questions, MCQs on techniques, mentor evaluation
- Professionalism
  - Reflective essays, MCQs on ethical & legal issues, mentor evaluations
- Society/community
  - MCQs on healthcare system & epidemiology; essays

# Examples of summative assessments for Foundations units

- Medical knowledge
  - Final MCQ/essay exam, pt note from OSCE
- Patient Care
  - OSCE including SP and pt note
- Lifelong learning
  - OSCE including SP and pt note
- Communication skills
  - OSCE including SP and pt note, essay on final exam, final mentor evaluation
- Professionalism
  - OSCE including SP and pt note, essay on final exam, final mentor evaluation
- Society/community
  - Final MCQ/essay exam

Overall Curriculum Structure –  
December 2010

