

**THE GENES TO SOCIETY CURRICULUM  
IS COMING!  
Are you ready?**

# Goals of the Workshop

- Know the background for curricular change
- Know at least 3 major **content innovations or themes** in the GTS curriculum
- Know at least 3 innovations in **instructional methods**
- Be aware of **resources** available to teaching faculty
  - Blackboard learning management system
  - Oasis curriculum management system
  - Sim Center

# Why Change?

- External Drivers
  - Explosion of new knowledge since 1991
  - Societal concerns: disparities, outcomes, safety
  - Changing hospital and patient demographics
  - Multidisciplinary topics: safety, aging, pain, nutrition, ethics,
  - Communication, professionalism, health policy
  - Research training, community service, community relations
  - New technologies of learning and care
  - LCME self-study: primary care, coordination, student life, oversight and organization, outcomes

# Missions and Assumptions

- Hopkins should train next generation of leaders in patient care, research, education, policy
- Medical school should remain four years
- All students should receive general training to allow subsequent specialization

***What is the content of the new curriculum?***

# Curricular Themes

- 1) **New model** of health and disease
  - adaptation, variability, and risk
  - de-emphasize normal-abnormal dichotomy (machine model)
- 2) **Science of the individual**
  - continuum from normal to altered health
  - impact of individual genetics, psychology, environment, socioeconomic characteristics
  - courses that are multidisciplinary
- 3) **Early and Developmental meaningful clinical experiences**
  - Y1 clinical skills
  - longitudinal ambulatory experience
- 4) **Preparation for academic careers, leadership**

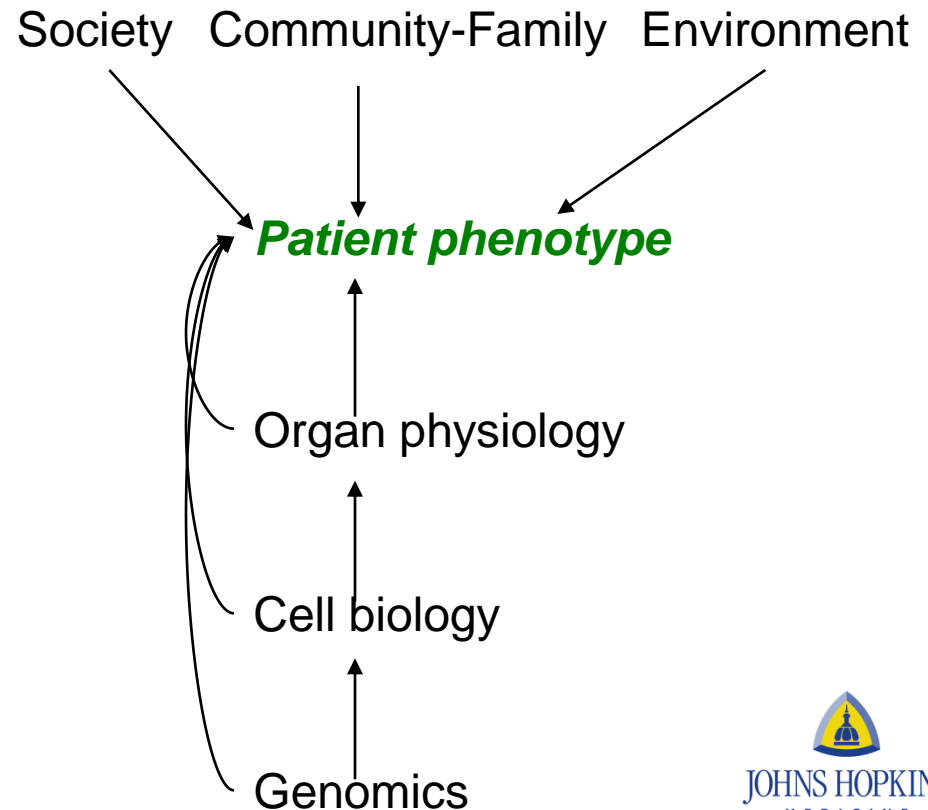
# Classic Disciplines vs. Systems Biology

## Current (CD)

Molecular Biology  
Physiology  
Pharmacology  
Pathology  
Etc.

## New (SB)

*For each organ system:*



# Foundations: The First 4 Months

- ***Scientific Foundations*** Course
  - Anatomy, Molecular Biology, Epidemiology, Pharmacology
- Social Science Foundations (***PP&S***)
  - *Introduction to Ethics, Professionalism, Systems*
- ***Clinical Foundations***
  - *Patient-Physician Communication*
  - *The Medical Interview*
  - *Basic Physical Examination: Vital signs, observations, correlation with **Anatomy** course*
- Introduction to ***Areas of Interest***

# Four Year Curriculum

## Class of 2014

August																		January										March						June																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53							
IS Health Disp Scientific Foundations of Medicine Clinical Foundations Patient, Physician, and Society Areas of Interest																		IS Prevention		Break		Genes to Society Immunology 1 (10 days) Micro/ID (25 days) Immunology 2 (7 days) Long. Clerk. Areas of Interest										IS Global		GTS Heme/Onc (15 days) LC AOI		Break		GTS Mind/Brain/Behavior (55 days) LC AOI						IS Pain		GTS MBB, cont. LC AOI				IS Disaster		Summer Break (8 weeks)							

Students can choose to do 5 clerkships by spring break (March) of year 3 (FIXED PATH) vs. Opting out of one of 5 between March year 2 and March year 3 (FLEXIBLE PATH) See below .....

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IC = Interdisciplinary Clerkship

Dean's Letter addendum sent out for those students with basic clerkship in Block 8

\*Subinternships require completion of the core clerkship in that field. Chronic care clerkship can be completed after any core. Technology intensive clerkship can be completed only after med or surg.

\*\*\*All core blocks must be completed by October of year 4.



# *The Intersessions*

## Weeks devoted to Integrative Medicine & Skill

Hour	Monday	Tuesday	Wednesday	Thursday	Friday
8	<b>GTS Testing</b>	<b>Large Group</b>	<b>Large Group</b>	<b>Large Group</b>	<b>OSCE/Testing/ Advising</b>
9		<b>PPS Small Group</b>	<b>PPS Small Group</b>	<b>PPS Small Group</b>	
10		<b>Clinical Skills</b>	<b>Clinical Skills</b>	<b>Clinical Skills</b>	
11		<b>Restorative Medicine</b>	<b>Practice</b>	<b>Practice</b>	
12	<b>Lunch</b>		<b>Lunch</b>	<b>Lunch</b>	<b>Group College Luncheon</b>
1	<b>Medicine and the Arts</b>	<b>AOI</b>	<b>AOI</b>	<b>AOI</b>	
2					
3					
4					



## *Areas of Interest*

- Seminar series with scholarly requirement
- Areas:
  - Clinical Research
  - Ethics, Humanities and the Healing Arts
  - Health Policy/Health Services Research
  - Basic Science
  - History of Medicine

# Intersession Themes

Title	Location	Director
<i>Health Care Disparities &amp; Advocacy</i>	Y1 After orientation, before SFM	Gordon Gibbons
<i>Prevention &amp; Health Promotion</i>	After SFM, at start of LC	Watkins Clark
<i>Global Health</i>	After GTS Micro	Bollinger
<i>Pain Care</i>	Mid of Y1 GTS Neuroscience	Murinson
<i>Disaster Medicine</i>	End of Year 1	Jenkins
<i>Substance Abuse</i>	Y2 After first GTS block	MacKinnon
<i>Patient Safety</i>	Y2 After GTS CV/GI (Jan)	Pronovost
<i>End of Life &amp; Palliative Care</i>	Y 2-3 After 1 <sup>st</sup> Clerkship Block	Carducci



**Genes to Society  
GI/Liver**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>8:00</b>	<b>Lecture:</b> Hepatic Physiology & Anatomy	<b>Longitudinal Clerkship</b>	<b>Team Learning:</b> Hepatobiliary Diseases	<b>Lecture:</b> GI Enteric Infections	<b>Small Group:</b> Inflammatory Bowel Disease
<b>9:00</b>				<b>Team Learning:</b> GI Enteric Infections	
<b>10:00</b>	<b>Lecture:</b> Hepatic Metabolism of Drugs and Drug-Induced Liver Disease		<b>Case Studies:</b> Unknown GI Cases		
<b>11:00</b>					<b>Team-Learning:</b> End Stage Liver Disease
<b>12:00</b>	<b>Case Presentation:</b> Liver Transplantation			<b>Clinical Correlation:</b> Traveler's Diarrhea	
<b>1:00</b>	Lunch	Lunch	Lunch	Lunch	Lunch
<b>2:00</b>		<b>Virtual Microscopy:</b> Inflammatory Liver Disease		<b>Workshop:</b> Presentations Irritable Bowel, Constipation	<b>Workshop:</b> Assignments Ethics of Liver: Transplantation, Allocation, Living Related, Social Aspects
<b>3:00</b>					
<b>4:00</b>		<b>Lecture:</b> Gall Bladder, Biliary Physiology, & Anatomy			

# *Transitions to the Wards*

- 4 weeks devoted to preparation for clinical clerkships

Three domains:

- “Classroom to Clinic”: Simulations, procedures,
- “Pupil to Professional”
- “Systems to Symptoms”: Case method teaching

# Core Clinical Clerkships

8 week blocks

- 5 required:
  - Gyn/Ob\*
  - Medicine\*
  - Neurology/Psychiatry
  - Pediatrics\*
  - Surgery\*
- + 1 month of Emergency Medicine

\*PRECEDE days

# *Clinical Interessions*

- 5 per year
- Devoted to “Return to Basic Science”
- Each week sponsored by a Basic Science Department
- Combination of journal clubs, seminars and case-method teaching
- Students would be required to complete 4/5 prior to graduation
- ?Assessment: TBD

# Required Advanced Clerkships

- Subinternship
- Chronic Care Rotation
  - Geriatrics
  - Pediatric rehab
  - Adult rehab
- Physiology-Intensive Rotation (ICU)

# Transition to Residency & Preparation for Life: *TRIPLE*

- 2 week course following Match Day

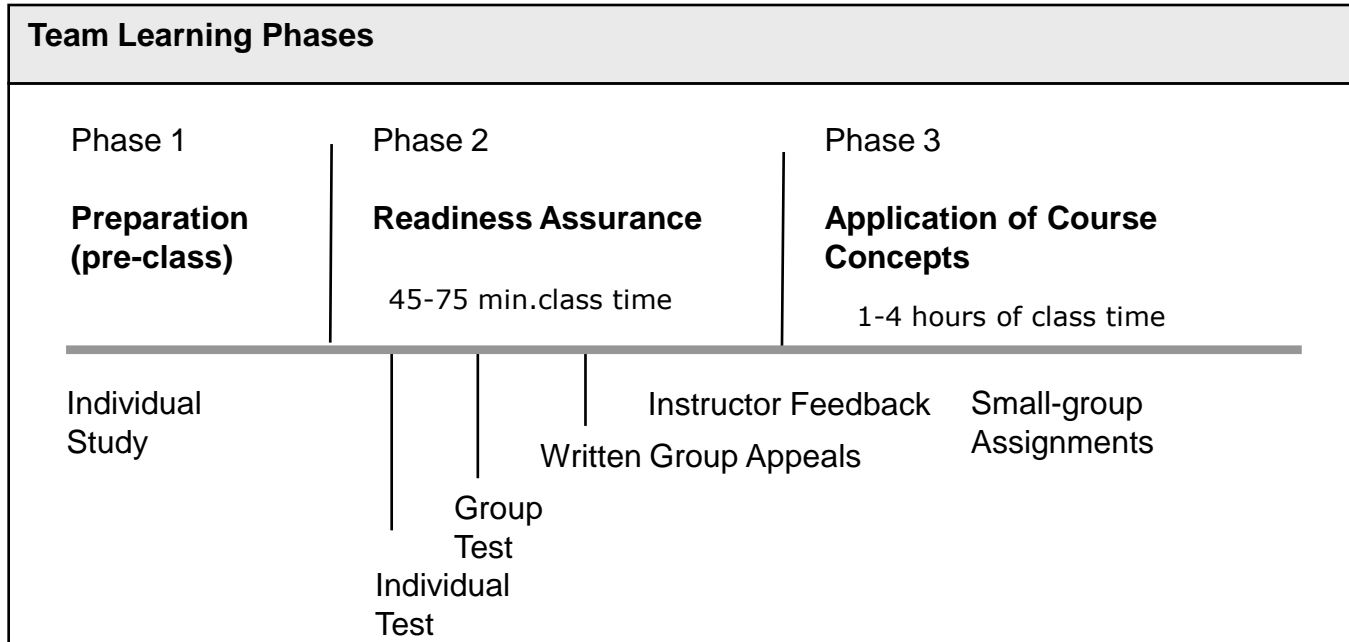
Three domains:

- Advanced communications
  - *Obtaining Informed Consent*
  - *Disclosing Error*
  - *Working with Interpreters*
- Procedures & Safety
  - ACLS certification
  - Rapid response
- Professionalism
  - *“Adopt a Patient”*
  - Worklife balance

# New Educational Methods

- **Earlier exposure to clinical skills and experience**
- **Less time spent in lectures and more in small group discussions**
  - Limit to 40% formal lecture time
  - Develop active learning methods for formal curriculum
    - **Team based learning**
- **Intersession weeks:** Protected time for behavioral and social science and skill development
- **Professional development:**
  - Horizontal Strands
  - The Student Portfolio

# Phases of Team Learning



*Michaelson LK, Team-Based Learning, 2004.*

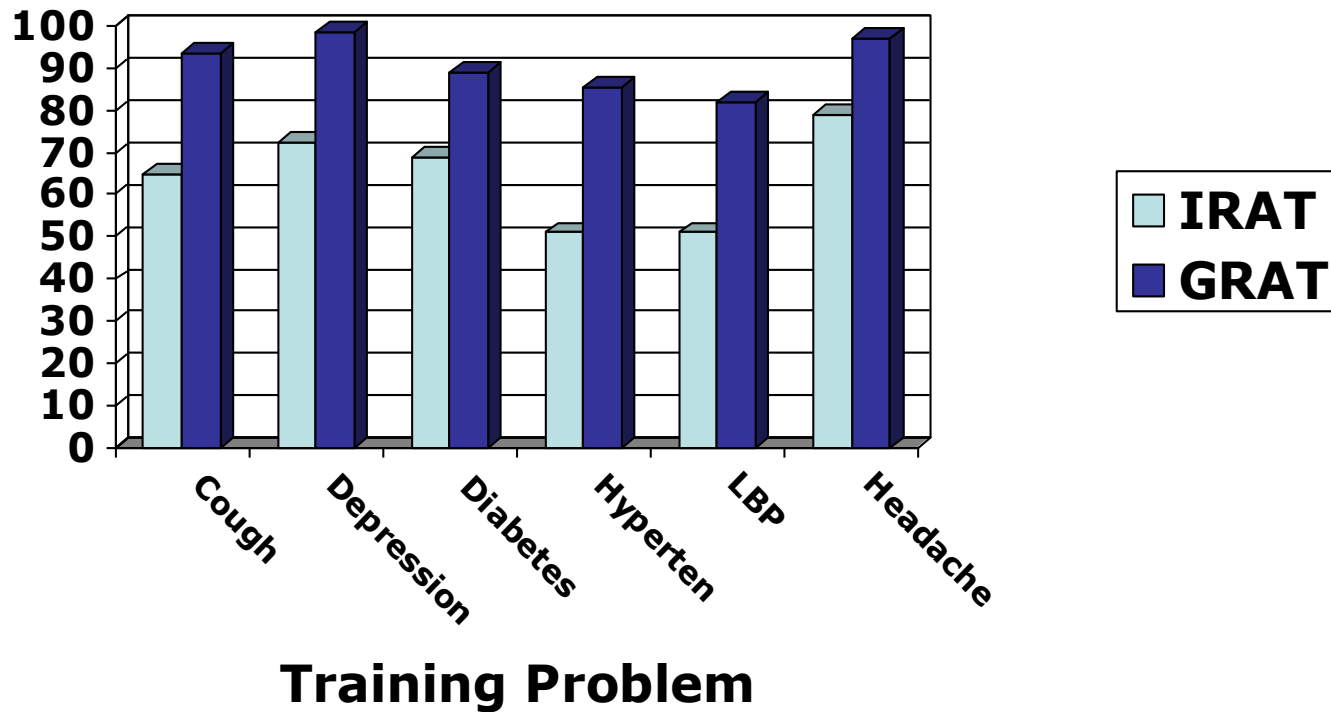
# TBL Session in the Ambulatory Clerkship

- Email reading assignment
- TBL Session:
- 10-15 min: IRAT
  - 10-15 min: GRAT with *IFAT*<sup>®</sup> forms
  - 20-30 min: Application Exercises
  - 30-40 min: Discussion and reporting
- 
- Total: 90 min-2 hours



# Feedback: Scoring on RAT

## Mean Scores on IRAT and GRAT



# Knowledge Test Performance (n=38)

	<b>SGL</b>	<b>TBL</b>	<b>p value</b>	<b>Effect size (Cohen's d)</b>
Cough	.70	.81	.02	.66
Depression	.80	.81	.93	.03
Diabetes	.69	.80	.002	1.1
Headache	.70	.76	.20	.43
Low Back Pain	.87	.96	.12	.51

# Student Assessment in the New Curriculum

## *The Portfolio*

- Learning plans
- Reflective writing
- Certifications: HIPPA, Research compliance, BLS, ACLS
- Simulations
- Workshop presentations
- Research
- Leadership

*What Will the Transition to the New Curriculum Be?*

# Academic Year 2008-09

## Class of 2012

September																			January								March							June																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Intersession ¶	Molecules and Cells								Immunology	Anatomy								Break	Anatomy				Neuroscience Psychiatry				Organ Systems							Summer Break																	
	Clinical Skills								Clinical Skills								Clinical Skills																																		

## Class of 2011

September																			January								March							June																	
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Year II Pathology, Pathophysiology, Pharmacology																		Break	Year II Curriculum								Quarter 4							Summer Quarter								Electives/ Break									
Clinical Skills Year 2																		Clinical Skills								#	Quarter 4							Summer Quarter								Electives/ Break									

## Class of 2010

September																			January								March							June																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Quarter 1									Quarter 2									Break	Quarter 3								Quarter 4							Summer Quarter								Electives/ Break									

## Class of 2009

September																			January								April																								
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Quarter 1									Quarter 2									Break	Quarter 3								TRIPLE							Electives																	

Notes:  
 # Preclerkship Prep Days (2)  
 .4 week clerkship/elective/vacation  
 ¶ Optional Health Care Disparities Intersession



# Academic Year 2009-10

## Class of 2013

September																		January										March										June																																			
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	Patient, Physician, and Society																			AOI											AOI											AOI																															
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## Class of 2012

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¶ Health Care Disparities IS Required



# Academic Year 2010-11

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# *What resources do I have?*

- Blackboard™ Learning Management Software\*
- E-value online evaluation system
  - <https://www.e-value.net>
  - Distributes, collects and collates evaluations
  - E-Portfolio
- Online testing (TBA)
- Sim Center\*
- OASIS Curriculum Management Software
- **Technology in the Armstrong Building\*\***



# Blackboard™ Learning Management Software

- Presentation of Content
- Communications to Students
- Dropbox of individual student grades, feedback
- Online quizzes
  
- Office of Academic Computing owns license and manages access, etc.
- Located at <http://courses.med.jhmi.edu>
  
- Contact: [goldberg@jhmi.edu](mailto:goldberg@jhmi.edu)

# The Sim Center



- “Standardized Patients”
  - Sim Man (physiology or pharmacology exercises)
  - Harvey cardiac simulator
  - Team training
- 
- Contact Director, Betsy Hunt, MD  
([ehunt@jhmi.edu](mailto:ehunt@jhmi.edu)) or  
Nicole Shilkofski, MD  
([nshilko1@jhmi.edu](mailto:nshilko1@jhmi.edu))

# Oasis Curriculum Management Software

- <https://oasis.med.jhmi.edu>
- Jhed password protected
- Managed by the Office of Curriculum
- Contact Pat Thomas ([pthomas1@jhmi.edu](mailto:pthomas1@jhmi.edu))

## *What if I forget all this?*

- Go to the curriculum reform website:  
<http://www.hopkinsmedicine.org/crc>
- FAQ's
- Links to Oasis
- Descriptions of Courses, Intersessions, Horizontal Strands
- Minutes from all curriculum committee meetings
- Information re Armstrong Building

# Goals of the Workshop

- Know the background for curricular change
- Know at least 3 major **content innovations or themes** in the GTS curriculum
- Know at least 3 innovations in **instructional methods**
- Be aware of **resources** available to teaching faculty
  - Blackboard learning management system
  - Oasis curriculum management system
  - Sim Center