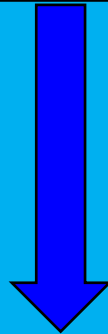


Curriculum Redesign: Organ System-Based Alignment and Integration of Pathology, Pharmacology, and Medicine Content: An Opportunity for a Meaningful Curriculum Reboot

Philip J. Boyer, M.D., Ph.D. #, James P. Coleman, Ph.D. ^,
Connor L. Pratson, LaToya M. Griffin, Ph.D. ~, Darla K. Liles, M.D. *,
Vijay Marri, M.D. *, Robert G. Carroll, Ph.D. +,
Jedediah S. Smith, M.S. +, Anthony N. Botros, Francis A. Jefferson,
Jonathan A. Miles, Terri N. Edwards, Med. M.A. ^^,
Luan E. Lawson, M.D. +

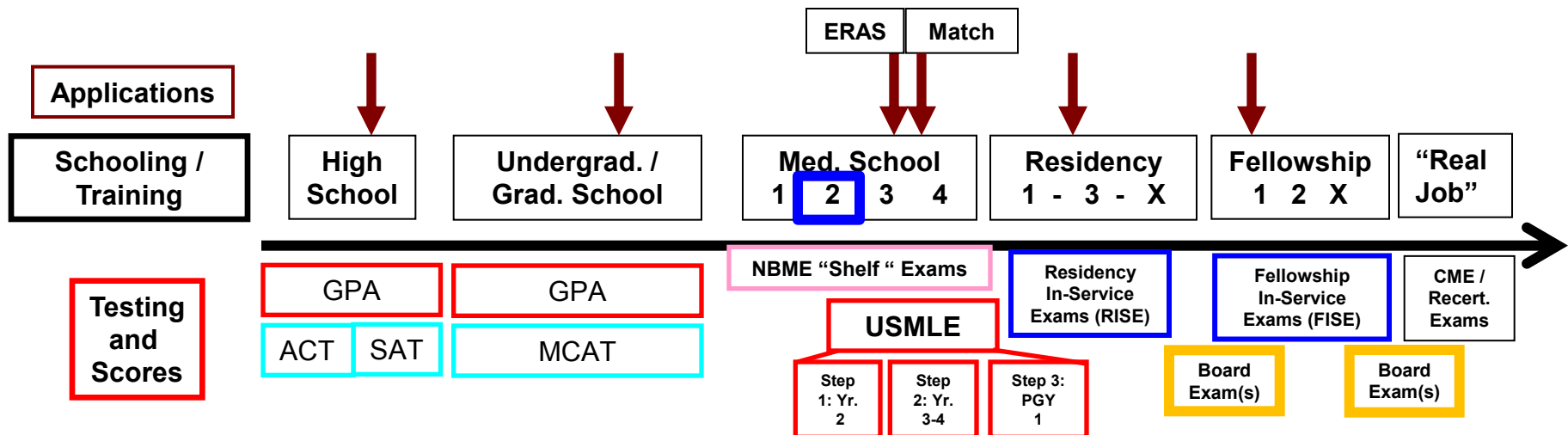
Departments of #Pathology and Laboratory Medicine, ^Microbiology and Immunology, *Medicine, ~Pharmacology, +Office of Medical Education, ^^Office of Student Development and Academic Counseling, and Department of Emergency Medicine, Brody School of Medicine, East Carolina University

Legacy Curriculum

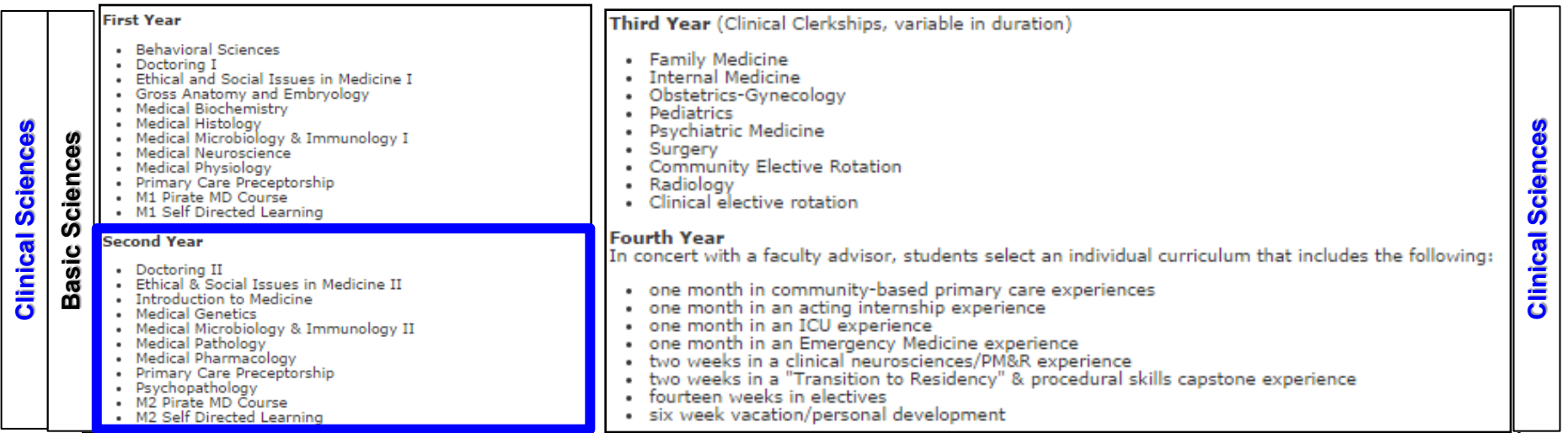


New Curriculum

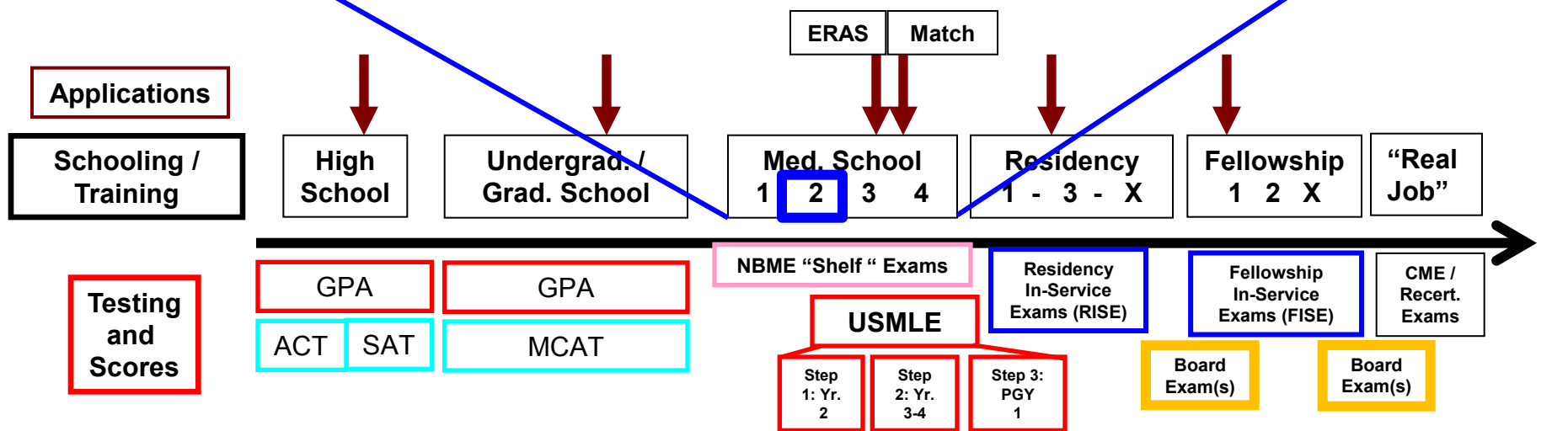
Medical Education Trajectory: Legacy



Medical Education Trajectory: Legacy



- Lectures
- Review Sessions
- Small Groups



Legacy Curriculum

First Year

- Behavioral Sciences
- Doctoring I, including Primary Care Preceptorship
- Ethical and Social Issues in Medicine I
- Gross Anatomy and Embryology
- Medical Biochemistry
- Medical Histology
- Medical Microbiology & Immunology I
- Medical Neuroscience
- Medical Physiology
- Foundations of Medicine I

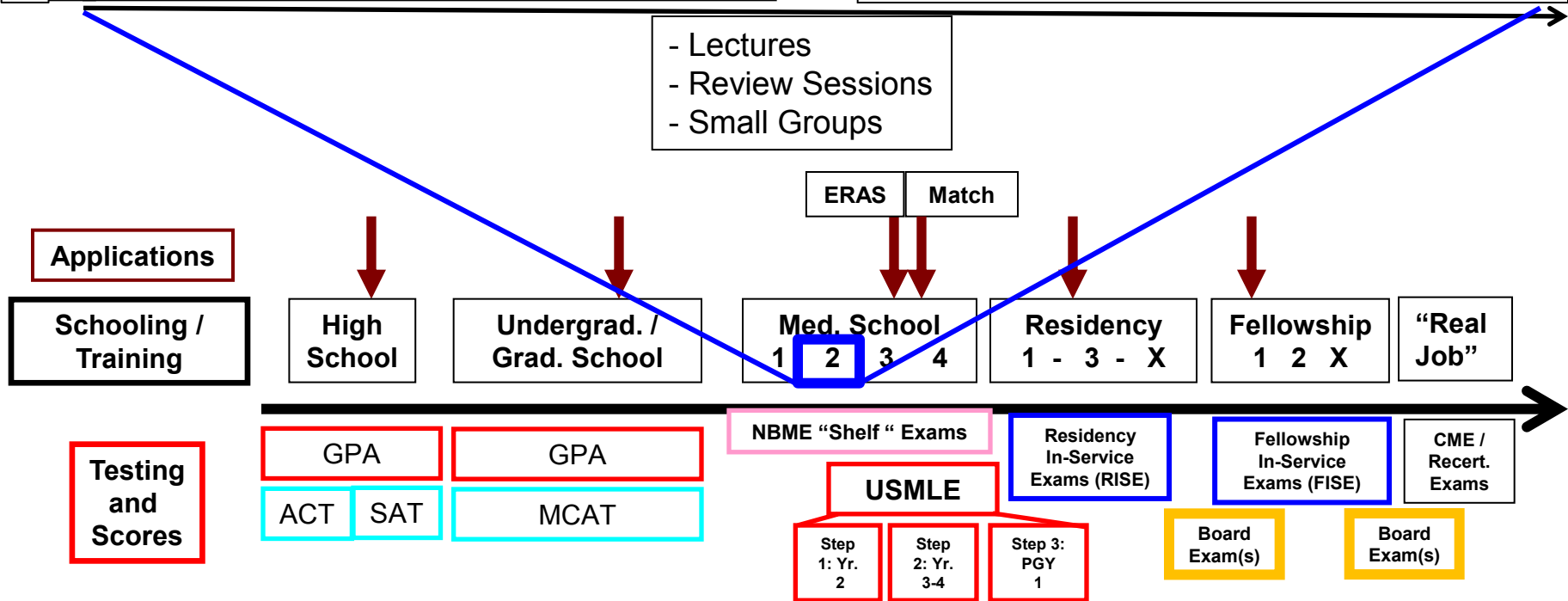
Second Year

- Doctoring II, including Primary Care Preceptorship
- Ethical & Social Issues in Medicine II
- **Introduction to Medicine**
- **Medical Genetics**
- **Medical Microbiology & Immunology II**
- **Medical Pathology**
- **Medical Pharmacology**
- Psychopathology
- Foundations of Medicine II

Pathology Curriculum: Legacy

Clinical Sciences	Basic Sciences	<p>Block 1: Cell Injury & Death / Inflammation & Repair / Hemodynamics / Neoplasia A / Immune System</p> <p>Block 2: Cardiovascular / Renal / Genitourinary / Male Reproductive</p> <p>Block 3: Pulmonary / Environmental / Nutrition / Neoplasia B / Central Nervous System</p>	<p>Block 4: Infectious Disease; Bone, Joint, & Soft Tissue; Liver; Gall Bladder; Pancreas</p> <p>Block 5: Hematopathology RBC & WBC; Hemostasis and Thrombosis; Transfusion Medicine; Female Reproductive; Placenta & Fetus</p> <p>Block 6: Endocrine; Skin; Pediatrics; Muscle, NMJ, & Nerve</p>
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- Lectures
- Review Sessions
- Small Groups



Rationale: Why Change?

- **Medical School Perspective**
 - Other Medical Schools: have condensed “basic science” portion of curriculum and expanded “clerkship” portion
- **Medical Student Perspective**
 - More Elective Clerkship Opportunities: opportunity to explore to optimize specialty / residency choice
- **Other Considerations**
 - **Medical Student Concerns**
 - Overlap
 - Inconsistency
 - Malalignment

Guiding Principles in Alignment of Content

- **Parsing and Separation of Basic Science Topics to Block 3:** Basic science concepts will be taught in “**Block 3**” while “**Block 4**” will comprise an integrated organ system motif.
- **Order of Content by Discipline:** **Pathology** will introduce pathophysiology topics, **Pharmacology** will introduce relevant medications, and then **Medicine** will highlight key concepts and diseases using a case-based approach.
- **Redundancy:** Redundancy other than planned / intentional redundancy will be **minimized or eliminated**.
- **Competing Issues Subordinated:** Competing issues including **faculty schedules** and the **coordination of pharmacology content with nursing student schedules** are considered secondary to a cohesive schedule that fits within the defined schedule with periodic examinations.
- **Preservation of Study Day:** The day prior to each examination will be reserved for study.

Guiding Principles in Alignment of Content

- **Assessment: More Frequently:** Assessments of lecture content will be increased from one-per-block test to a **weekly quiz or examination.**
- **Liaison Committee on Medical Education (LCME) Accreditation:** Position curriculum to **meet LCME accreditation criteria.**

Data: Critical Review of Legacy M2 Curriculum Content

Second Year Curriculum Optimization: A Student's Perspective of Gaps, Overlap, and Planned Redundancy

**Nicholena Etxegoien, MS4, and Kevin Harris, MS4,
Brody School of Medicine**

Brody Medical Education Day, 04/12/2017

An exhaustive review of Pathology, Pharmacology, and Medicine content presented in the legacy curriculum was undertaken by student members of the Curriculum Subcommittee

New Curriculum

Block 3

**Pathology & Pharmacology
Introductory Content – Taught
During Year 1:**

- **Pathology:** Cell Injury & Death / Inflammation & Repair / Hemodynamics / Neoplasia I & II / Immune System / Environment / Nutrition
- **Pharmacology: General Principles,** Pharmacodynamics, Autonomic Nervous System , Autacoids

Other Basic Science / Foundational Content

Shifted to Block 3:

- **Medical Microbiology and Immunology II**
- **Medical Genetics**
- **Ethics**
- **Biostats**

Block 4

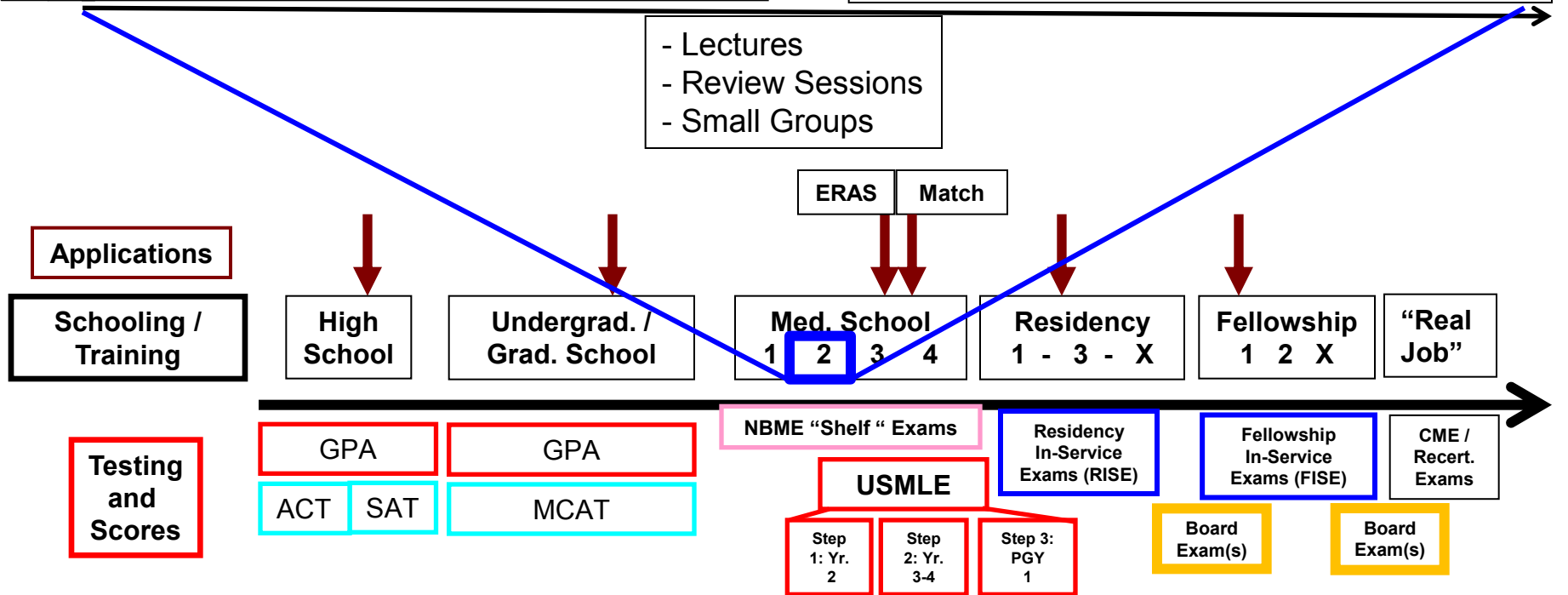
**Pathology / Pharmacology / Medicine:
Integrated Organ System Content –
Taught during Year 2:**

- **Section 1:** Review (Pathology, Pharmacology) / Cardiovascular / Renal
- **Section 2:** Pulmonary / Rheumatology
- **Section 3:** Neurology / Infectious Disease
- **Section 4:** Gastrointestinal / Nutrition / Pediatric
- **Section 5:** Hematology, Coagulation & Thrombosis, Transfusion Medicine / Dermatology
- **Section 6:** Endocrine / Female Reproductive System, Fetal-Maternal, Placenta / Male Reproductive System / Laboratory Medicine

Pathology Curriculum - NEW

Clinical Sciences	Basic Sciences	<p>Block 1: Cell Injury & Death / Inflammation & Repair / Hemodynamics / Neoplasia A / Immune System</p> <p>Block 2: Cardiovascular / Renal / Genitourinary / Male Reproductive</p> <p>Block 3: Pulmonary / Environmental / Nutrition / Neoplasia B / Central Nervous System</p>	<p>Block 4: Infectious Disease; Bone, Joint, & Soft Tissue; Liver; Gall Bladder; Pancreas</p> <p>Block 5: Hematopathology RBC & WBC; Hemostasis and Thrombosis; Transfusion Medicine; Female Reproductive; Placenta & Fetus</p> <p>Block 6: Endocrine; Skin; Pediatrics; Muscle, NMJ, & Nerve</p>
	Basic Concepts		

- Lectures
- Review Sessions
- Small Groups



Block 4: Cardiovascular / Renal Section

Cardiovascular Sections of Integrated Curriculum

SECTION 1 - CARDIO/RENAL 1 H Med, 15.75 H Pharm; Cardio: 11 H Path; 5 H Med, 1.5h CBS Renal: 11 H Path; 9 H Med, 1.5 H CBS						SECTION 1 - CARDIO/RENAL					
	Monday 08-13-18	Tuesday 08-14-18	Wednesday 08-15-18	Thursday 08-16-18	Friday 08-17-18		Monday 08-20-18	Tuesday 08-21-18	Wednesday 08-22-18	Thursday 08-23-18	Friday 08-24-18
8:00	8:00-8:50 Pharm 4 Anti-Thrombotics 2	8:00-8:50 Pharm 5 Diuretics 1	8:00-8:50 Pharm 6 Diuretics 2	8:00-8:50 Pharm 7 Cardiac Ischemia-Angina	8:00-8:50 Pharm 8 Cardiac Ischemia-Infarct	8:00	8:00-8:50 TC QUIZ 2 (30 Questions Max)	8:00-8:50 Pharm 9	8:00-8:50 Pharm 10	8:00-8:50 Pharm 11	8:00-8:50 Pharm 12
8:30						8:30		Congestive Heart Fail 1	Congestive Heart Fail 2	Hypertension 1	Hypertension 2
9:00	9:00-9:50 Path - Cardio 2	9:00-9:50 Path - Cardio 4	9:00-9:50 Path - Cardio 5	9:00-9:50 Path - Cardio 6	9:00-9:50 Med - Cardio 2	9:00	9:00-9:50 Path - Renal 1	9:00-9:50 Med - Cardio 3	9:00-9:50 Med - Cardio 4	9:00-9:50 Med - Renal 2	9:00-9:50 Med - Renal 4
9:30	BVD; Vasculitis	Valvular Heart Disease	Atherosclerosis & Lipids	Coronary Artery Disease & Myocardial Infarct	Valve	9:30	Evaluation of Renal Disease	Coronary Artery Heart Disease	CASES	Diagnostic Approaches	Acid/Base
10:00	10:00-10:50 Path - Cardio 3 BVD, Arterio and Atherosclerosis, Dissection, Connective Tissue Disease, Aneurysm, Hypertension	10:00-11:20 Psych 4	10:00-11:30 Ethics 10	10:00-10:50 Path - Cardio 7	10:00-10:50 Path - Cardio 8 Heart Failure, Cardiac Neoplasms, Pericardial Disease	10:00	10:00-11:20 Psych 6	10:00-10:50 Path - Cardio 10	10:00-11:30 Ethics 11	10:00-10:50 Med - Renal 3	10:00-10:50 Med - Renal 5
10:30		Definitions/Classifications		Myocarditis, Cardiomyopathies		10:30	Mental Status Exam	Congenital Heart Disease		Fluids & Electrolytes	Acute Disease
11:00	11:00-11:50 Psych 3			11:00-11:50 Path - Cardio 8 LAB 1	11:00-11:50 Psych 5	11:00	11:00-11:50 Psych 7	11:00-11:50 Psych 7		11:00-11:50 Path - Renal 2	11:00-12:20 Psych 8
11:30	Models & Mechanisms 2				Interviewing	11:30	11:30-12:20 Path - Cardio 11 LAB 2	Testing In PCP Setting Rating Scales		Histology & Mechanisms Of Renal Disease	Neurocognitive Disorders
12:00	LUNCH	LUNCH	LUNCH	Noon 12:50 EqM 2 LUNCH Career & Academic Development Small Groups	Student Organizations Fair	12:00		LUNCH	LUNCH	LUNCH	
12:30				1:00-3:00 EqM PBL 1 Small Groups		12:30	LUNCH				LUNCH
1:00			1:00-5:00 Med - Cardio 1 Sim Lab 3 Rooms - (40 min per student group)			1:00				1:00-4:00 EqM PBL 2 Small Groups	
1:30		1:30-3:30 Doc 2 2 Physical Diagnosis Rotation (PDR)				1:30		1:30-3:30 Med Case-Based Study Cardiovascular			
2:00	2:00-5:00 Hold for Autopsy Experience					2:00		Doc 2 3 PDR			
2:30						2:30	2:30-5:00 Hold for Autopsy Experience				
3:00						3:00					
3:30						3:30					
4:00						4:00					
4:30						4:30					

Pathology

Pharmacology

Medicine

Psychiatry

Doctoring

Foundations
of Medicine

Time Shift

**Into Clerkships
>2 Months Earlier**

How??

Spring 2016-2017

February 27 – March 3, 2017

	Monday 27-Feb	Tuesday 28-Feb	Wednesday 1-Mar	Thursday 2-Mar	Friday
8:00	8:00-8:50 Pharm Cancer Drugs 3	8:00-8:50 Pharm Cancer Drugs 4	8:00-8:50 Pharm Immunomodulators 1	8:00-8:50 Pharm Immunomodulators 2	8:00-8:50 Pharm Review
8:30					
9:00	9:00-9:50 Path – Female Repro 5 Cervix/Cytology	9:00-9:50 Genetics 7 Cytogenetics 2	9:00-9:50 Path – Female Repro 8 Tubes/Ovary 2	9:00-9:50 Genetics 8 Prenatal Diagnosis 1	9:00-9:50 Genetics Review
9:30					
10:00	10:00-10:50 Path – Female Repro 6 Uterus	10:00-10:50 Path – Female Repro 7 Tubes/Ovary 1	10:00-10:50 Path – Female Repro 9 Laboratory 7E57,7E69,7E71,7E73	10:00-10:50 Genetics 9 Prenatal Diagnosis 2	10:00-10:50 Path – Female Repro 10 Placenta
10:30					
11:00	11:00-11:50 Medicine - Review	LUNCH	LUNCH	LUNCH	LUNCH
11:30					
12:00	LUNCH				
12:30					
1:00	SELF-DIRECTED STUDY		SELF-DIRECTED STUDY	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY
1:30		1:30-3:00 Doctoring II 2504 EKG Lecture			
2:00					
2:30					
3:00					
3:30					
4:00		SELF-DIRECTED STUDY			
4:30					

March 6 – March 10, 2017

	Monday 6-Mar	Tuesday 7-Mar	Wednesday 8-Mar	Thursday 9-Mar	Friday 10-Mar	
8:00	READING DAY	READING DAY		READING DAY	8:30-12:30 EXAM Pharmacology/Pathology	
8:30						
9:00					9:00-11:00 EXAM Genetics	
9:30						
10:00						
10:30						
11:00					LUNCH	
11:30						
12:00						
12:30						
1:00			1:00-3:00 EXAM Internal Medicine			
1:30						
2:00						
2:30						
3:00						
3:30						
4:00						
4:30						

April 17 – April 21, 2017

	Monday 17-Apr	Tuesday 18-Apr	Wednesday 19-Apr	Thursday 20-Apr	Friday 21-Apr	
8:00	STUDENT HOLIDAY				SELF-DIRECTED STUDY	
8:30						
9:00		9:00-9:50 Genetics 18 Practical Genomics	9:00-9:50 Medicine Review	9:00-9:50 Genetics Review		
9:30						
10:00						
10:30		SELF-DIRECTED STUDY	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY		
11:00						
11:30						
12:00		LUNCH	LUNCH	LUNCH		
12:30						
1:00						
1:30	1:30-3:30 Doctoring II PDR Make-Up					
2:00		SELF-DIRECTED STUDY	SELF-DIRECTED STUDY			
2:30						
3:00						
3:30						
4:00						
4:30						

April 24 – April 28, 2017

	Monday 24-Apr	Tuesday 25-Apr	Wednesday 26-Apr	Thursday 27-Apr	Friday 28-Apr
8:00					
8:30		8:30-12:30 EXAM Internal Medicine			
9:00	9:00-11:00 EXAM Genetics				
9:30					9:30-12:30 EXAM Pharmacology
10:00					
10:30					
11:00					
11:30					
12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
12:30					
1:00					
1:30					
2:00					
2:30					
3:00	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY
3:30					
4:00					
4:30					

May 1 – May 5, 2017

	Monday 1-May	Tuesday 2-May	Wednesday 3-May	Thursday 4-May	Friday 5-May
8:00			8:00-12:30 EXAM Pathology Shelf Exam		
8:30					
9:00					9:00 ECU Commencement
9:30	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY			
10:00					
10:30					
11:00					
11:30					
12:00	LUNCH	LUNCH	LUNCH	LUNCH	
12:30					
1:00					
1:30					
2:00					
2:30					
3:00	SELF-DIRECTED STUDY	SELF-DIRECTED STUDY			
3:30					
4:00				8:00-12:30 EXAM Pathology	
4:30					8:00 p.m. BSCM Commencement

SECTION 1 - CARDIO/RENAL				
	Monday 09-03-18	Tuesday 09-04-18	Wednesday 09-05-18	Thursday 09-06-18
8:00	LABOR DAY HOLIDAY	8:00-8:50 Pharm 17 2S04	8:00-8:50 Pharm 18 2S04	Self-Directed Study
8:30		Anti-Arhythmics 2	Anti-Arhythmics 3	
9:00		9:00-9:50 Med - Renal 9 2S04	9:00-9:50 Path - Renal 11 2S04	
9:30		Chronic Disease	Renal Elements of Hypertension, Uroliths, Transplant Disease	
10:00		10:00-10:50 Path - Renal 10 LAB	10:00-11:30 Ethics 13 6 rooms	
10:30				
11:00				
11:30				
12:00		LUNCH	LUNCH	
12:30				
1:00				
1:30	1:30-3:30 Doc2 5 PDR	1:30-3:00 Med Case-Based Study Renal 8 rooms		
2:00				
2:30				
3:00				
3:30				
4:00				
4:30				

8:00-12:00 TC
EXAM 1
Cardio, Renal
- Path
- Pharm
- Med
- Psych
160 Max Questions

SECTION 2 - PULM/RHEUM				
	Monday 09-24-18	Tuesday 09-25-18	Wednesday 09-26-18	Thursday 09-27-18
8:00	8:00-8:50 QUIZ 5 (30 Questions Max) TC	8:00-8:50 Pharm 27 2S04	8:00-8:50 Pharm 28 2S04	Self-Directed Study
8:30		Opioids 1	Opioids 2	
9:00	9:00-9:50 Med - Rheum 3 2S04	9:00-9:50 Med - Rheum 4 2S04	9:00-9:50 Med - Rheum 6 2S04	
9:30	Monoarthritis	Polyarthritis	Soft Tissue Rheumatism	
10:00	10:00-10:50 Path Rheum/Skeletal 5	10:00-10:50 Med - Rheum 5 2S04	10:00-11:30 Ethics 16 6 rooms	
10:30	Soft Tissue	Back Pain		
11:00	11:00-11:50 Psych 18 2S04	HOLD		
11:30	Dissociative Disorders			
12:00	LUNCH	LUNCH	LUNCH	
12:30				

Royal Mail Ship Titanic



SECTION 4 - GASTRO/NUTRITION			
	Monday 11-12-18	Tuesday 11-13-18	Wednesday 11-14-18
8:00	8:00-8:50 QUIZ 10 (30 Questions Max) TC	8:00-8:50 Pharm 51 2S04	8:00-8:50 Pharm 41 2S04
8:30		Anti-Virals 2	Anti-Fungals / Anti-Helminths
9:00	9:00-9:50 Path Pediatric 2 2S04	9:00-9:50 Path Pediatric 4 2S04	9:00-9:50 Path Pediatric 6 2S04
9:30			
10:00	10:00-10:50 Path Pediatric 3 2S04	10:00-10:50 Path Pediatric 5 2S04	10:00-10:50 Path Pediatric 7 2S04
10:30			Inborn Metabolic Disease
11:00	11:00-12:20 Psych 35 2S04	11:00-11:50 Psych 36 2S04	11:00-11:50 Psych 37 2S04
11:30	Mental Health & Illness in The Geriatric Patient	Clinical Legal Issues in Psychiatric Medicine	The Difficult Patient & Other Issues
12:00		LUNCH	LUNCH
12:30	LUNCH		
1:00			
1:30		1:30-3:30 Doc2 13 PDR	1:30-3:00 Med Case-Based Study GI
2:00			
2:30	2:30-5:00 Hold for Autopsy Experience		
3:00			
3:30			
4:00			
4:30			

(F.G.O. Stuart (1843-1923), en.wikipedia.org/wiki/RMS_Titanic#/media/File:RMS_Titanic_3.jpg)

Assessment: Changes & Challenges



**** Quality Improvement
Implementation ****

Assessment

- **Legacy Curriculum**
 - ExamSoft E-Testing: 2014-2015 Academic Year
 - Assessment
 - Pharmacology & Pathology Examination: 2014 – 2017 = X 3 Years
 - Seamless: Virtually no problems
 - Medicine, Psychiatry, Microbiology, Genetics Examinations: Separate
- **New Curriculum**
 - ExamSoft
 - Assessment
 - Quizzes: Single quiz, all subject areas
 - Examinations: Single Examination
 - USMLE Step 1 Environment

Assessment

- **New Curriculum**
 - **“If it can go wrong”**
 - Non-Standard Students: Not able to access assessment
 - Blending: Wrong quiz added: Block 3 vs. 4
 - Duration: Wrong time assigned
 - Secure Review: Not turned on
 - Linked Questions with Shared Vignette: Not linked
 - Questions: Non-standard, grammatical and stylistic non-conformity

We Need an Intervention!!

Ad Hoc Committee: Quality Improvement (Master Class)

- **Course Directors** N = 3 (M2 & M1)
- **Medical Students** N = 4 (M2)
- **Curriculum Directors** N = 2 (M2 & M1)
- **Faculty Administrators** N = 5
- **Test Administrate** N = 1
- **Admin. Assistant** N = 1

Dr. Luan Lawson



(ecu.edu/cs-dhs/ecuem/fac/lawsonjohansonl.cfm)

Environment

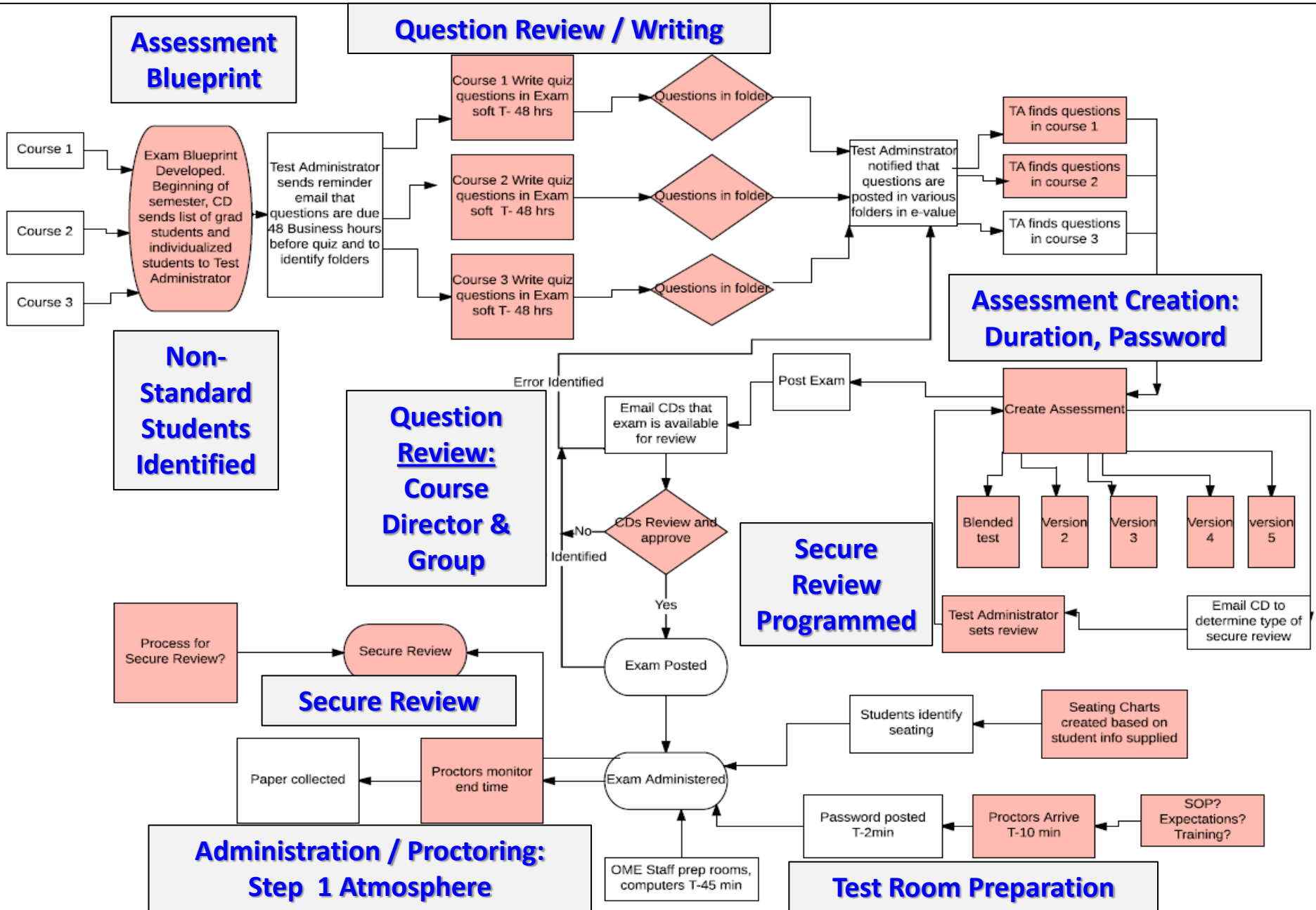
People

Content

**Equipment &
Software**

**Policies &
Procedures**

Standard Operating Procedure: **DRAFT**



Recommendations Presented to Curriculum Committees: Assessment Questions

- **Recommendation #1**: Assessments not employing essay or free text should only use **single best answer formats** that require test-takers to select the single best response.
 - This avoids the use of true/false (C-type, K-type, and X-type) questions]
- **Recommendation #2**: **Item analysis** should be performed **after each exam**. The following analyses should be performed and reviewed in the context of the entire exam:
 - Analysis of item difficulty
 - Analysis of item discrimination
 - Analysis of item options

**Feedback Meetings:
Student
Representatives and
Course and
Curriculum Directors**

Post-Examination Feedback Meetings

Themes For Continuous Quality Improvement: Needs Identified By Students During Feedback

Course Organization	Quizzes & Examinations	Content Alignment / Integration	Educational Technology / Communication
<p><u>Standardization:</u> Baseline expectations, across and within courses</p>	<p><u>Consistent Delivery of A Quality Assessment Experience:</u> Similar to Step 1 items *</p>	<p>Although <u>alignment efforts appreciated</u>, work towards more <u>functional integration needed</u></p>	<p><u>Course Information (Lectures, Documents, etc.):</u> Should be available electronically for preview/review ASAP</p>
<p><u>Course Director Role:</u> present and engaged at each course session</p>	<p><u>Assessment:</u> * Questions aligned with <u>course and session objectives</u></p>	<p><u>Path.:</u> Focus on disease * <u>Pharm.:</u> focus on therapies; <u>Med.:</u> ↑ focus on clinical presentations and DDx</p>	<p><u>Expectations of Course Directors:</u> Clearly communicated to faculty and students, especially when changes occur</p>
<p><u>Objectives and Key Words for Sessions:</u> Clearly communicated at outset and assessed at completion</p>	<p><u>Distribution:</u> Equitable distribution of quiz items relative to lecture hours and relative “Step 1” importance</p>	<p><u>Session Level Integration:</u> * Within a given exam block <u>instructors</u> should be <u>aware of the content presented by others</u>; aligned with <u>First Aid</u></p>	<p><u>Tools:</u> Increased demand for user-friendly educational tools (ex. readable ppt. slides/presenter’s notes)</p>

Feedback: Survey

Survey

- **Whom?**
 - **M2s**: **Experimental Group**
 - Status-Post maiden voyage of curriculum
 - **M3s and M4s**: **Control Group**
 - Legacy curriculum
- **Survey Tool**
 - Draft Developed
 - Trialed on M4s
 - Consultation Pending
 - Dr. Carroll
 - Dr. Charles
 - Others

Interim Summary / Conclusions

Changes: Overview

- **"Block 3" at End of M1 Year: Basic Pathology and Pharmacology Topics** now taught at end of M1 Year along with Genetics, Ethics, and completion of Microbiology Course: frees up M2 "year" for [alignment of organ system topics](#) but **adds bulk to M1 year**.
- **"Block 4" during M2 "Year": Alignment and Integration** of topics [by Organ System](#) in Pathology, Pharmacology, and Medicine along with Psychiatry.
- **Reduction in Basic Science Concept Redundancy/Overlap and Dissonance during the M2 Year**: e.g. [elimination of different definitions](#) (e.g. "hypertension") or **redundant (X3) explanations** of (e.g. Graves disease) in Pathology, Pharmacology, and Medicine.
- **Sequence of Topic Presentation in M2 Year**: [Pathology](#) teaches [pathophysiology](#); [Pharmacology](#) teaches [pharmacologic concepts](#) and [current medications](#); and [Medicine](#) uses a [case-based approach](#) to illustrate key concepts and topics
- **Single Integrated Examination**: Questions from all courses vs. legacy curriculum with multiple examinations (e.g. separate Medicine, Pathology-Pharmacology, Psychiatry, and Microbiology examinations) spread over 2-3 or more days: [USMLE atmosphere](#)
- **Examination or Quiz EVERY Week** vs. Examination every 4-6 weeks
- **Single Study Day Prior to M2 Examinations** free of classes vs. [1 to multiple study days](#) prior to examinations in legacy curriculum
- **Elimination of Review Sessions**: Materials available on Blackboard
- **M2 Students Finish Classes in Early February and Take Step 1 in March** vs. finish classes in early May and take Step 1 in June in legacy curriculum
- **Students Begin M3 Clerkships in Early April** rather than late June: Allows for [additional electives](#) and [avoids overlap](#) of new M3 students [with new residents](#)

“Integrated Curriculum: Univ. Central Florida

	August	September	October	November	December	January	February	March	April	May
M-1 New Student Orientation				November	December	January				
	P-2 Practice of Medicine									
	Community of Practice									
	I-2 Focused Individualized Research Experience									
M-2 Orientation Assist w/ M-1 Orientation	and ns	S-4 Gastrointestinal and Renal Systems (6 wks)			Vacation	S-5 Skin and Musculoskeletal Systems (4 wks)				

Adv Physiol Educ 38: 199–209, 2014;
doi:10.1152/advan.00055.2014.

A Personal View

Faculty reflections on the process of building an integrated preclerkship curriculum: a new school perspective

Mohammed K. Khalil and Jonathan D. Kibble

Department of Medical Education, College of Medicine, University of Central Florida, Orlando, Florida

Submitted 6 May 2014; accepted in final form 4 June 2014

Step 1 Study and Transition to Clerkships

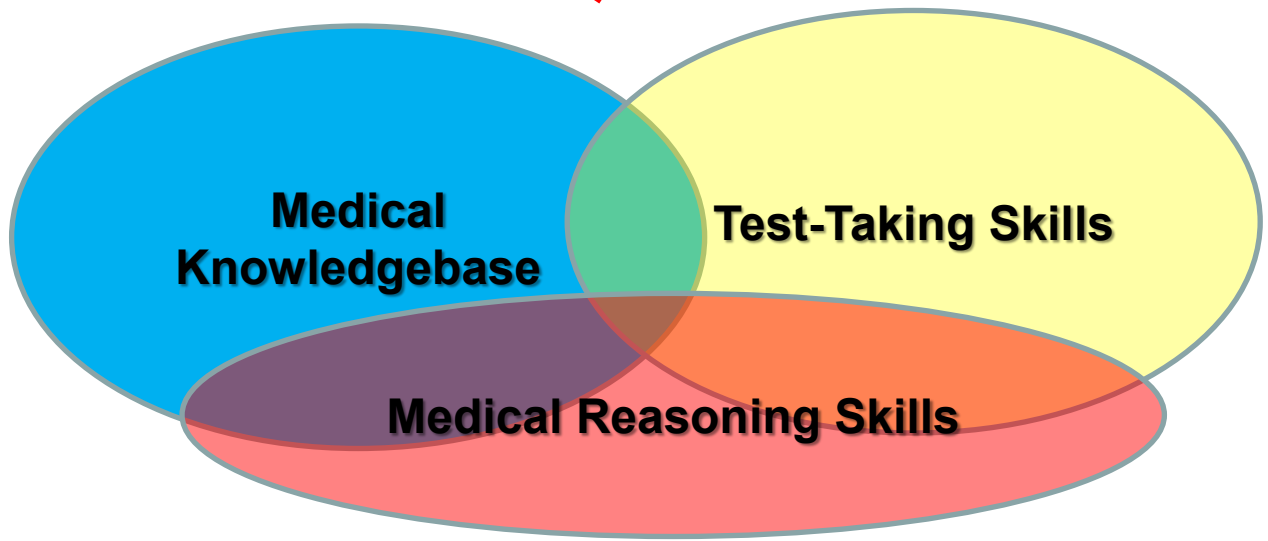
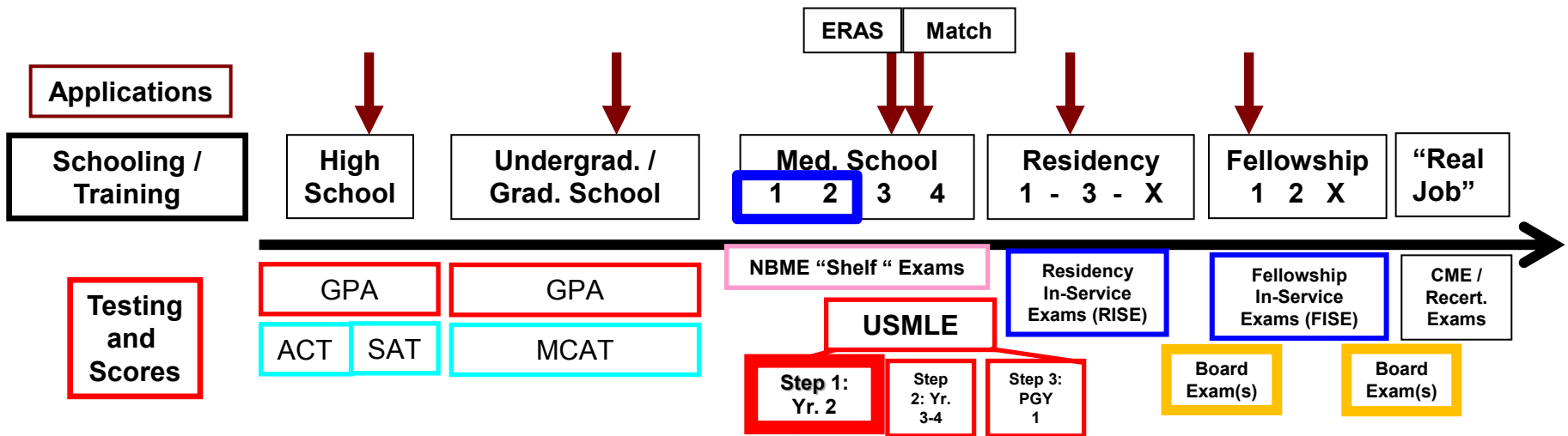
Curriculum	Complete Classes	Step 1 Study and Exam	M3 Clerkship Orientation
<u>Legacy Curriculum:</u> 2016-2017	<u>05/05</u> , 2017	<u>05/08 – 06/16</u> , 2017	<u>06/19</u> , 2017
<u>New Curriculum:</u> 2017-2018	<u>02/09</u> , 2018	<u>02/12 – 04/06</u> , 2018	<u>04/09</u> , 2018

To-Do List

To-Do List

- **Integration at Session Level** (in addition to Program and Course Level)
 - Objectives and Key Words
 - Definitions
 - Shared tables and diagrams: Incorporation of First Aid for Step 1 content as possible
- **Assessment**
 - Standardization of question writing
 - Elimination of overlap of questions asking essentially the same thing: e.g. Pathology and Medicine
 - Increase “Tertiary”-type / medical reasoning questions
 - Add integrated questions with combined: Pathology / Pharmacology, and Medicine content

Medical Education Trajectory



Cases of the Week

SECTION 1 – CARDIOVASCULAR / RENAL

	Monday 08-27-18	Tuesday 08-28-18	Wednesday 08-29-18	Thursday 08-30-18	Friday 08-31-18
8:00	8:00-8:50 TC QUIZ 3 (30 Questions Max)	8:00-8:50 2S04 Pharm 13	8:00-8:50 2S04 Pharm 14	8:00-8:50 2S04 Pharm 15	8:00-8:50 2S04 Pharm 16
8:30		Hypertension 3	Hypertension 4	Local Anesthetics	Anti-Arrhythmics 1
9:00	9:00-9:50 2S04 Med – Renal 6	9:00-9:50 2S04 Path – Renal 4	9:00-9:50 2S04 Path – Renal 6	9:00-9:50 2S04 Med – Renal 7	9:00-9:50 2S04 Med – Renal 8
9:30	Hypertension	Glomerular Disease - Nephritic	Tubulointerstitial Disease	Glomerular	Non-Glomerular
10:00	10:00-10:50 2S04 Path – Renal 3	10:00-10:50 2S04 Path – Renal 5	10:00-11:30 6 rooms Ethics 12	10:00-10:50 2S04 Path – Renal 7	10:00-10:50 2S04 Path – Renal 9
10:30	Glomerular Disease - Nephrotic	RPGN & Systemic Disease Affecting Kidneys		Neoplasia and Cysts	Renal Vascular Disease
11:00	11:00-12:20 2S04 Psych 9	11:00-12:20 2S04 Psych 10		11:00-11:50 2S04 Path – Renal 8	11:00-11:50 2S04 Psych 11
11:30	Schizophrenia Spectrum & Other Psychotic Disorders	Bipolar and Related Disorders		Urinary Tract: Ureter, Bladder, Urethra	Depressive Disorders
12:00			LUNCH	LUNCH	LUNCH
12:30	LUNCH	LUNCH			
1:00			1:00-4:00 SL Pharm Sim LAB (With Pre-Reading and On-Line Quiz) 2 Rooms - (40 min per student group)	1:00-4:00 FoM PBL 3 Small Groups	
1:30		1:30-3:30 2S04			
2:00		Doc2 4 PDR			
2:30	Hold for Autopsy Experience				
3:00					
3:30					
4:00					
4:30					

Med. Cases of the Week: Case A / Case B ID Cases of the Week: Case A / Case B

**Is This Experience /
Ordeal Worth
Publishing?**

**Evidence-Based
Medical Student Education**

Academic Pathology



(Peter Kragel, M.D.,
CustomInk.com)

Academic Medicine



Service to:
- Community
- Profession

**Clinical
Work**

Research

Teaching

Purposes of Educational Scholarship

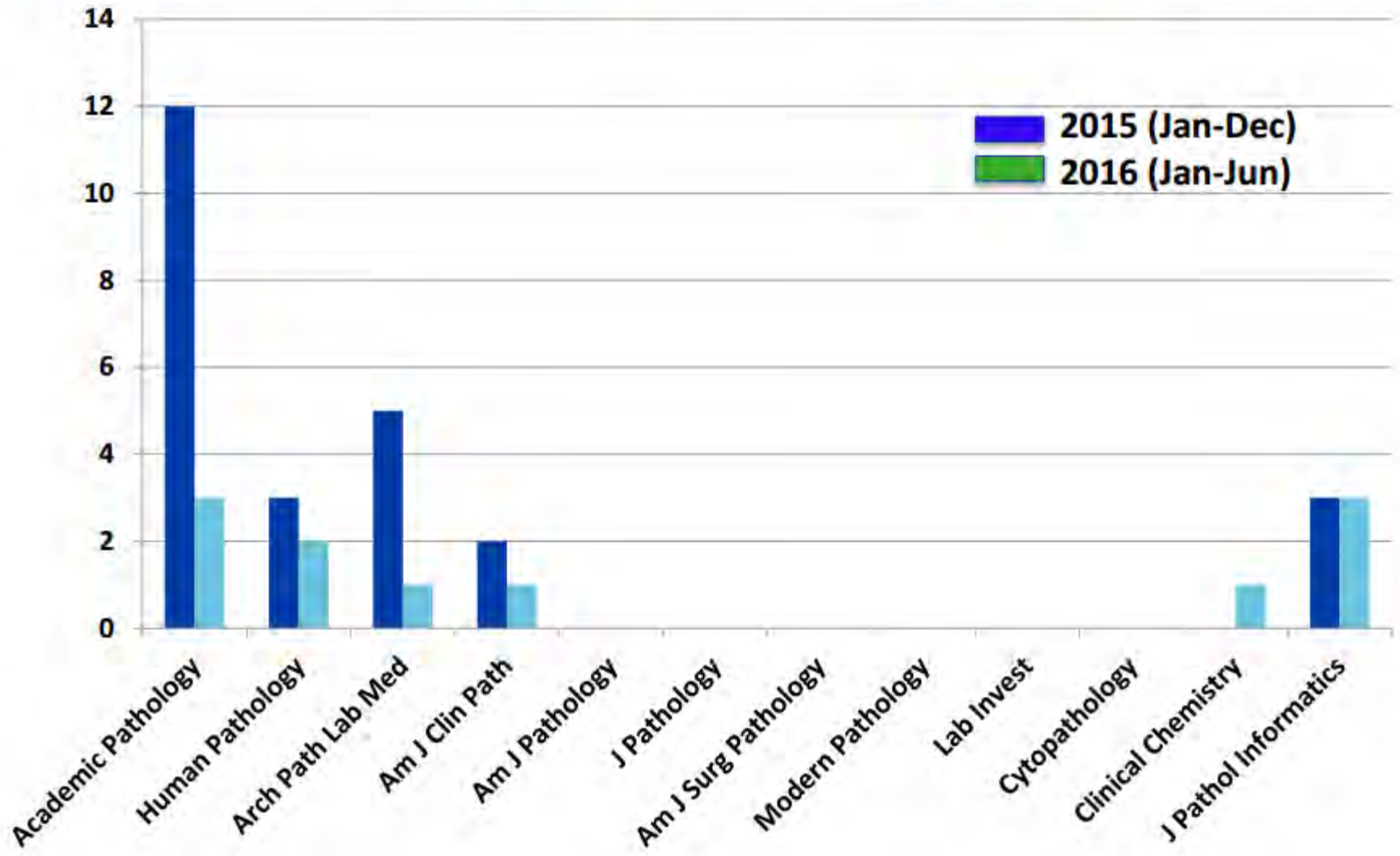


- **Disseminate knowledge about innovations in education***
 - Scholarship of discovery (research)
 - Scholarship of integration (across disciplines)
 - Scholarship of application (from research to practice)
 - Scholarship of teaching and learning
- **A mechanism for career advancement of clinician:teacher**
 - Need to have parallel alignment of P&T Committees

- A mechanism for education, career development, and CV building for **students** and **residents**

*Boyer EL. Scholarship reconsidered – Priorities of the Professoriate. Princeton, NJ, 1990

Educational Scholarship in the “Pathology” journals



(Crawford J., Publishing Educational Scholarship Papers, APC 2016, UMEDS Session)

Research Article

Pathology Informatics Essentials for Residents: A flexible informatics curriculum linked to Accreditation Council for Graduate Medical Education milestones

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(Henricks WH et al. J Pathol Inform. 2016 Jul 6;7:27.)

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