

Designing Curriculum for Meaningful Learning in Higher Level Education



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Why Do I Teach?

When I see a learner's face light up in the classroom when they begin to put the pieces of the puzzle together, it gives me a sense of being and drives me to continue to be an advocate for learners, a change agent, a communicator, and a leader in education. This why I teach and why I love what I do.

What is important to me as an educator?

- ❖ Building relationships
- ❖ Establishing trust
- ❖ Fostering a community of inclusion
- ❖ Engaging learners
- ❖ Life-long learning

Mnemonics: Effective Study Aids

Mnemonics are words/images that aid in learning especially difficult concepts. I have created and utilized mnemonics to help learners understand foundational and advanced concepts in pharmacology and toxicology. It takes some time and creative thinking, but they have proven to be effective tools when integrated within the medical and graduate curriculum. Check some out.....

Phase I and II Metabolism
Reactions grouped into 2 types of reactions:

- Phase I: expose or introduce a functional group
- Phase II: conjugation of metabolite, increase in water solubility, promotes excretion



COMTs are the AI Capone drugs

- Parkinson's Disease Drugs**
COMT Inhibitors
- Entacapone (Comtan)
 - Tolcapone (Tasmar)



Multiple Sclerosis Oral Drugs

- Dimethyl fumarate (oral)
- Teriflunomide (oral)
- Fingolimod (oral)
- Siponimod (oral)

Integrating Health Systems Sciences into the Pre-clinical Curriculum



I led an initiative with the clinical simulation team to integrate health systems science (HSS) into the clinical simulation exercises that are part of the pre-clinical medical curriculum at Brody School of Medicine (BSOM). The initiative involved:

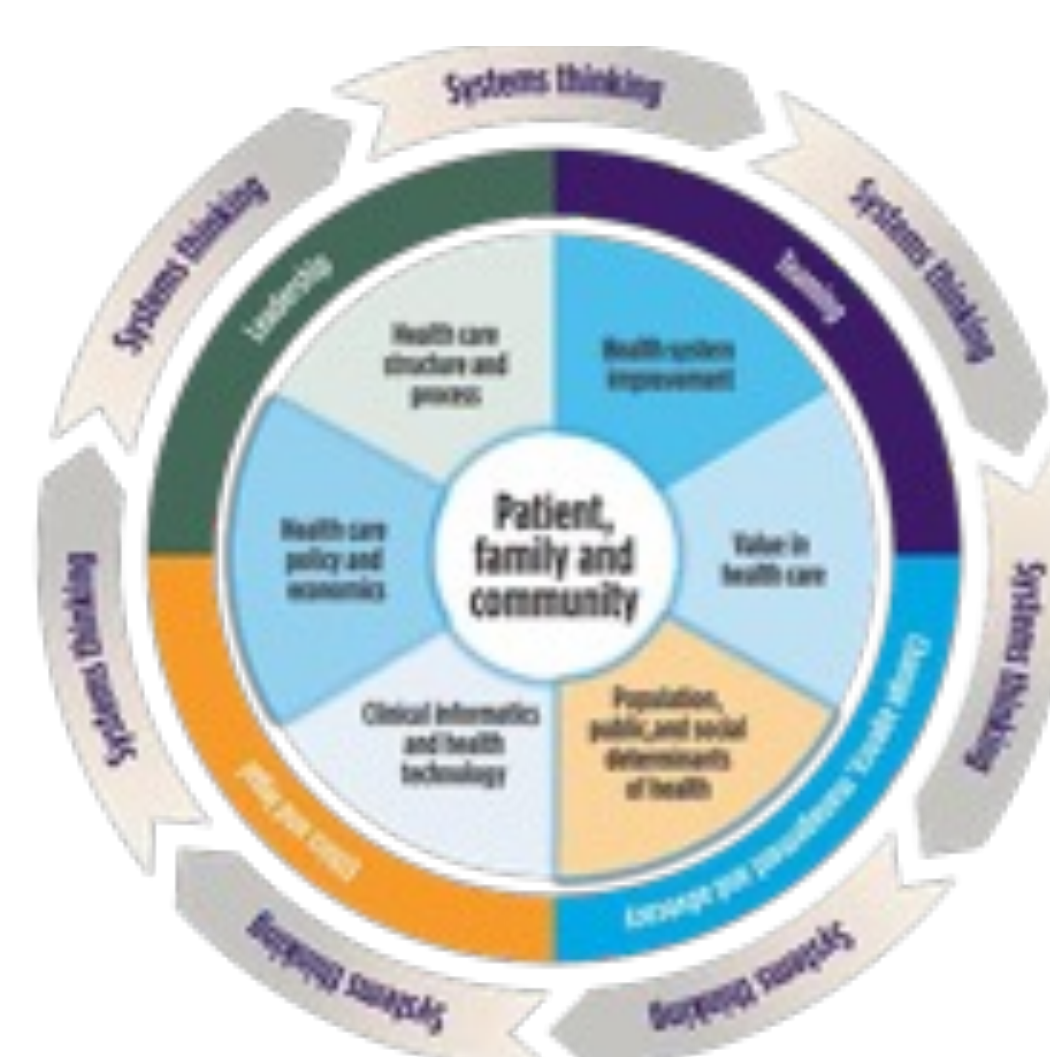
- ❖ A series of 7 clinical cases highlighting at least three of the HSS domains.
- ❖ A realistic patient scenario including diagnostics and interventions, a debrief discussing the team dynamics, learning objectives, and the HSS domains that were relevant to patient-centered care.
- ❖ The integration of such roles as an interpreter, a social worker, a family member, and a consultant to emphasize concepts like social determinants of health, healthcare policy, ethics, and healthcare improvement.
- ❖ A BSOM-designed HSS icon to highlight HSS practices and principles in each case.

The 3rd Pillar of Medical Education



American Medical Association

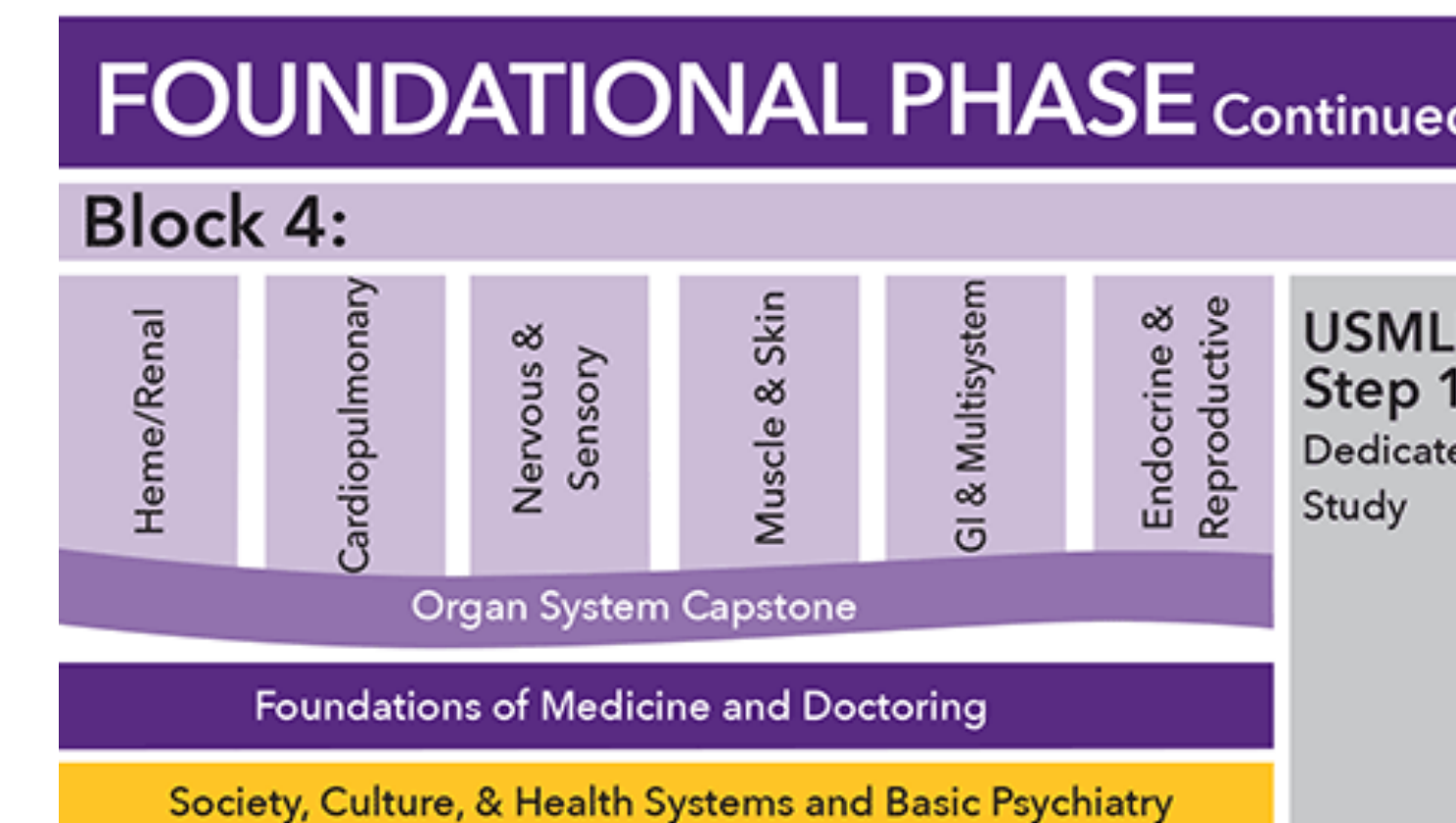
Health System Science Domains



This longitudinal integration of HSS concepts in the foundational years provided a primer for the immersive clinical experience in the latter years of the curriculum.

An Integrated Approach to the Second Year (M2) Medical Curriculum

I assisted in the integration of the foundational curriculum at BSOM with the Office of Medical Education and the Pharmacology, Pathology and Clinical Applications thread directors. The M2 curriculum was re-designed by organ systems with a focus on the abnormal processes that cause disease. This involved topic integration, calendar planning, exam question building, establishing curricular requirements, creating a capstone course, and aligning new course objectives with BSOM's Institutional Learning Objectives.

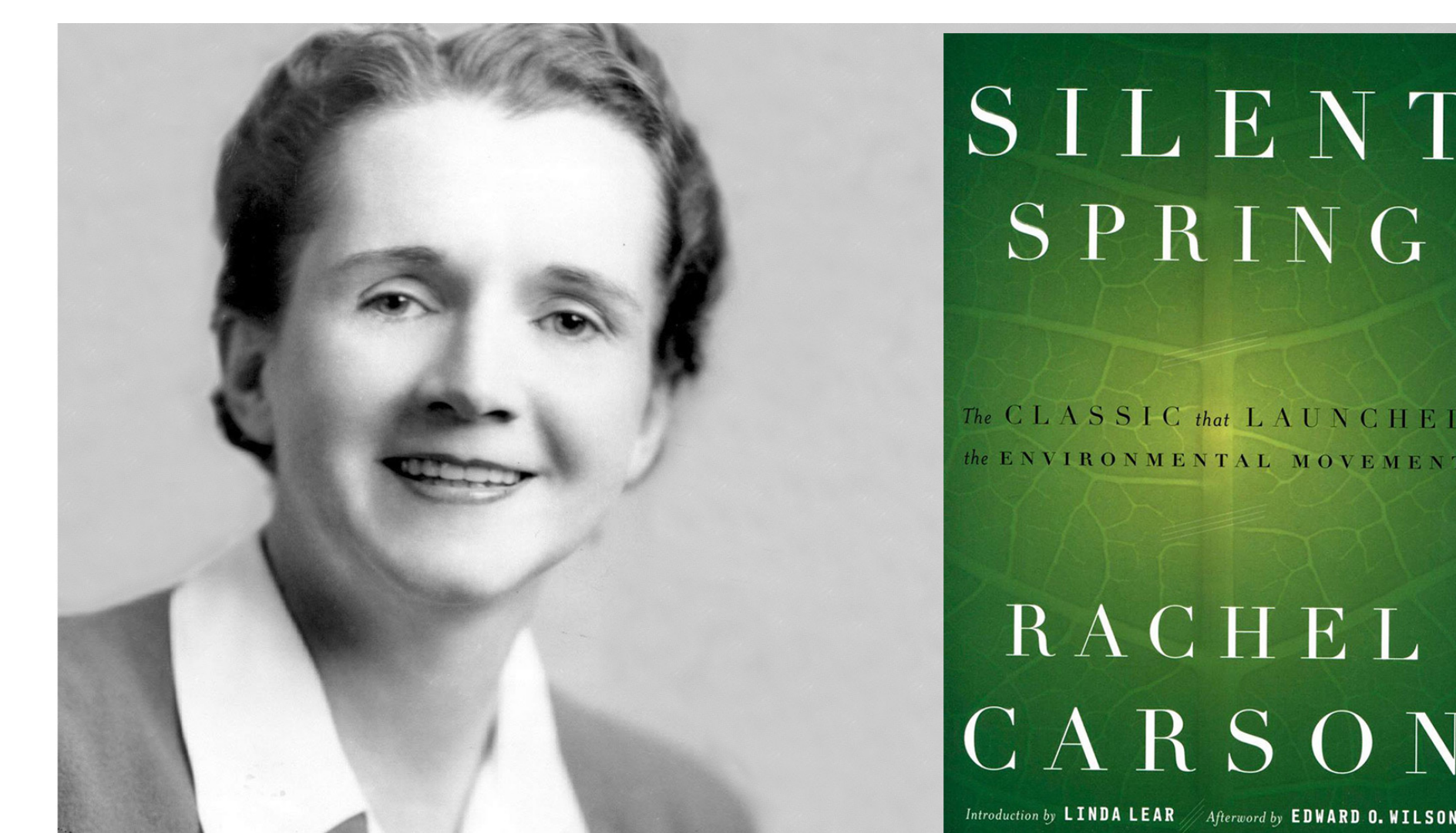


Office of Medical Education, BSOM

"Silent Spring": An Effective Learning Tool in Toxicology

Advanced Toxicology, a graduate course developed by myself and Dr. DeWitt, explores the cellular and molecular mechanisms by which xenobiotics induce their toxic effects and the application of these molecular concepts in disease pathogenesis, public health, and regulatory action.

We utilize the book "Silent Spring" by R. Carson, a female wildlife biologist who brings public attention to DDT's toxic effects on the environment, as a catalyst for class discussion. Learners correlate ideas in the book with the Michigan State University's virtual exhibit, "Echoes of Silent Spring: 50 years of Environmental Awareness." In effect, learners gain experience in applying toxicological concepts to public and environmental health within the framework of the modern environmental movement.



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