I. Evolution of First Year Curriculum
   1) Based on “best practices” at other schools (UCSF, Yale, Wake Forest, UTMB)
   2) Faculty-driven consensus process with input from students, chairs & dean’s office
   3) Two key principles
      a) Improve both horizontal & vertical integration
         • Created four blocks of related disciplines for basic science
         • Created Clinical Applications case-based course to integrate blocks with ICM & Med/Soc & with each other
         • Courses given leeway to implement innovative solutions
      b) Enhance opportunities for individualized & self-directed learning
         • Courses given leeway to implement innovative solutions

II. Innovations and “best practices”

   General:
   1) Use of audience response system to improve interaction in large group settings
   2) Lecture capture system to capture lectures & provide online archive for students

   Block 1:
   1) Interactive online lecture modules, GUTS modules and case conference summaries
   2) Lectures organized around clinical focus areas beginning with a clinical case presentation and ending with a case conference

Medical Informatics (Part of Block 1):
   1) Online tutorials on searching for medical information and online sessions for advanced training on PubMed searching

Block 2:
   1) Forth year Clinical Anatomy elective for students who wish to improve dissection/surgical skills prior to their residencies by helping out with dissections in the first year course. This elective also satisfies the new integration selective requirement.
   2) Online small group case studies using private online forums and “page by page” disclosure format.

Block 3:
   1) Interactive Clinical Capstone sessions led by clinicians following basic science lectures on a specific organ system. One key objective is to emphasize the important role that basic science concepts play in clinical practice.
   2) The pairing of physiology and histology to emphasize structure – function correlations. The students get to see how organs function from both a visual point of view (histology lab sessions) and an audio point of view (physiology lectures).

Block 4:
   1) Online PRIMER lectures (Profoundly Important Material Everybody should Review) on key concepts in immunology that are similar to the GUTS modules in other courses except that they are a required part of the course
   2) Record a Division of Infectious Diseases case presentation by fellows and/or the attending physician so that the students have an example of what they are attempting to imitate, although at a simpler level
   3) Increase the clinical context of laboratory exercises by having students actually perform clinical laboratory tests.

CAC:
   1) Patient centered case stories that illustrate how clinical problems entail the simultaneous application of basic biological science, clinical science, social and behavioral science, epidemiology and patient care skills.

ICM:
   1) Four integrative cases correlated with basic science blocks using both paper cases and standardized patients.
2) A faculty development course to instruct their physician teachers on the best teaching and evaluation techniques.

Medicine & Society:
1) Broad survey course on social issues taught by wide range of faculty who train each other to teach different segments. Each teacher must apprentice for a year with an experienced teacher before leading a group alone.
2) Broad survey course provides the base for in-depth study of one topic in 2nd year.

III. Ongoing – Further integration of Year 1:
1) Better integration of ICM & Med/Soc
2) Better integration of CAC with blocks (expansion into block 4, further integration with other blocks, more exposure to patient history over the course of the year)
3) Better integration between blocks (perhaps team focus groups by topic or course)
   a) Block 1/Block 2 (evolutionary biology & genetics, metabolic response to injury)
   b) Block 1/Block 3 (obesity, cell signaling pathways, transporters, hepatic & renal clearance)
   c) Block 1/Block 3/Block 4 (molecular biology, cholera toxin and G-protein signaling, metabolic response to injury & infection)
   d) Block 2/Block 3 (thoracic anatomy and the mechanics of breathing, the function of the liver as defined by its vascular relationship with the intestine, the relationship between the surface anatomy of the brain and underlying neural structures, and the structure, function, and pharmacology of the autonomic nervous system)
   e) Block 3/Block 4 (immune cells & immune organs, physiological response to infections)

IV. Challenges: Integration with Years 2 and 3
1) Some basic science is core to medical thinking
2) Need clear educational outcomes that best prepare for 2nd and 3rd years
3) Better integrate Blocks 1 and 3 with 2nd year expectations
4) Better integrate Block 2 with 3rd year expectations
5) Better integrate Block 4 with 3rd year expectations
6) Important (common) clinical cases that can serve as an anchor for all 4 years (perhaps 20)

V. Changing Pre-Med Requirements – Benefits and Hazards
1) Change pre-med course requirements to include more basic science – pass the burden down.
2) Consider shortening Block 1 for those who have had a lot of Biology and providing summer GUTS course for those with less science background.
3) Be wary of unintended consequences and costs of above ideas.

VI. Evaluation – many dimensions
1) Course evaluations by students – in place but need tweaking
2) Peer evaluation of faculty – expensive but valuable for faculty feedback, development and promotion. Currently is done by course directors to varying extents for each course.
3) Peer evaluation of students – Trials in CAC and Block 2 – needs to be more widely implemented
4) Student evaluation of faculty – Is currently being done in Med Soc and ICM. OIS is helping the “block” courses obtain this information on a temporary basis, but the evaluation instruments vary from course to course and the data are not being archived in OME.

VII. Learn from Other Schools – we used models from other schools to redesign 1st year and now we need to look into models to assist with plans for vertical integration, concept mapping and bringing basic science into the clinical years.