Program Welcome & Kick-Off

June 19, 2017 Morning Session  (9:00 AM – 10:30 AM; 10:45 AM – 12:45 PM)

1. **Evidence-Based “Healthy Brains – Healthy Bodies”**
   How to practice “Mindfulness”

2. **MCAT Practice Test**
   Identifying personal areas of strength and weakness

3. **Introduction to organization of future morning sessions**
   Gaining an excellent understanding of difficult/confusing concepts in the following: biochemistry, biology, general chemistry, organic chemistry and physics; psychology and sociology

June 19, 2017 Afternoon Session  (1:30 PM – 4:30 PM)

1. **Meet Your Mentor (Successful 1st Year Medical Student)**

2. **Identify Interests & Opportunities and Create Schedules for Experiential Learning**
   - Physician Shadowing (Community & Hospital)
   - Simulation Observation/Training
   - Surgery Observation
   - Admissions Information
   - Clinical and/or Laboratory Research

General Overview of Morning Sessions: **Review of Major, Integrated Concepts** – biochemistry, biology, general chemistry, organic chemistry and physics (3 weeks); psychology and sociology (1 week)

9:00 – 9:30 AM  Individual readiness assessment of assigned material followed by a brief discussion of difficult concepts

9:30 – 10:30 AM  Team-based problem solving – MCQ’s, Flow Sheets, or Concept Mapping

10:45 AM – 11:15 AM  Team-based problem solving review

11:15 AM – 12:45 PM  Team-based learning: higher order of comprehension & knowledge application

General Overview of Afternoon Sessions (Shadowing, Simulations, Clinical/Lab Research, Mentoring)

- Working on “individual” problem areas
- Understanding “test” questions – what is important, what is irrelevant
- Critical analysis and reasoning – assessment of student’s understanding of assigned passages from revered sources of opinionated news (4-5 afternoons)
- Deepening knowledge of basic concepts in research and statistics (2-3 afternoons)
- Preparation for the next morning’s active learning sessions – Establishing learning objectives for next day’s assessment of knowledge needed for:
  - Team-based learning
  - Team-based problem solving
  - Concept mapping
Example of how Biochemistry will be reviewed:

BIOCHEMICAL CONCEPTS

Student areas of assumed expertise:
- Biomacromolecular Structure
- Amino acid chemistry
- Basic Protein Structure/Function
- Thermodynamics & Buffers
- Basic Cell Biology: universal cellular commonalities, membrane composition/function, organelle structure/function, compartmentalization, intracellular environments, specialization, eukaryotes vs. prokaryocytes, bacteria & viruses

Areas for discussion:
- Storage and Transmission of Genetic Information
- Genetics & Genomics
- Enzyme Kinetics & Control
- Bioenergetics
- Metabolic Pathways & their Regulation
- Metabolic Interrelationships & their clinical correlations
  - Regulation of blood glucose concentration
  - Hyperammonemia
- Physiological processes

Examples of topics in Biochemistry to be reviewed in morning sessions:
- Energy metabolism
- Metabolic acidosis: causes & consequences
- Nitrogen metabolism
- Metabolic alkalosis: causes & consequences
- Recombinant DNA technology