

University of Vermont College of Medicine
Summer Medical School Prep Program
An Introduction

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