CHE 59700: ANALYTICAL METHODS IN HEALTHCARE DELIVERY

• Class #1: Introduction to the US healthcare system; basic principles
• Classes #2-12: Diseases with a significant public health burden
  • Class #2: Cardiac disease (hypertension; congestive heart failure; coronary artery disease)
  • Class #3: Obesity/metabolic syndrome
  • Class #4: Diabetes
  • Class #5: Cancer
  • Class #6: Chronic kidney disease/end-stage renal disease
  • Class #7: Clinical case #1
  • Class #8: Neurologic disease (Alzheimer’s disease; stroke)
  • Class #9: Inflammatory/autoimmune disorders
  • Class #10: Liver disease (chronic/cirrhotic liver disease; non-alcoholic steatohepatitis: NASH)
  • Class #11: ICU disorders – sepsis; acute kidney injury
  • Class #12: Clinical case #2
• Class #13: Clinical management of healthcare data (focus on electronic medical record: EMR)*
• Class #14: Overview of biopharmaceutical industry (I)
• Class #15: Overview of biopharmaceutical industry (II)
• Class #16: Drug discovery*
• Class #17: Drug manufacturing*
• Class #18: Overview of medical device industry (I)
• Class #19: Overview of medical device industry (II)
• Class #20: Case study: Medical device company (Cook Biotech)*
• Class #21: Team presentation #1
• Class #22: Health economics (spending/financing)
• Class #23: Health insurance
• Class #24: Principles of clinical/biomedical research
• Class #25: Case study: Entrepreneurship in medicine (formation of a start-up)*
• Class #26: Team presentation #2
• Class #27: Precision medicine
• Class #28: Emerging trends (I): Artificial intelligence; digital health
• Class #29: Emerging trends (II): Value-based care; risk-sharing initiatives
• Class #30: Case study: Opioid crisis (scope of problem and potential solutions)*

*: Guest speakers