Catch Up Course Library

We suggest that students without prior experience in the following areas or who wish to brush up their knowledge in these areas review the following materials:

**Mathematics**

Very basic principles of Calculus, Differential Equations, and Linear Algebra

* “Basic Maths” from Vynnycky and White. *An Introduction to Infectious Disease Modelling.* Oxford, 2010. (PDF will be added to Canvas soon)

**Probability**

Understand basic probability theory, familiarity with common probability distributions

* Bolker B. Probability and statistical distributions for ecological modeling. (PDF is on Canvas)

**Infectious Disease Epidemiology**

Students should be familiar with the following concepts: incidence, prevalence, mortality rate, case fatality rate, risk, relative risks, cohort studies, case control studies, as well as basics of infectious diseases such as types of pathogens, attack rate, incubation period, latent period, infectious period, pathogen carriage, susceptibility, immunity, routes of transmission.

* Giesecke J. *Modern Infectious Disease Epidemiology.* 3rd Edition. 2017. This is a very concise introduction to epidemiologic concepts, and all of the chapters below could be read in a couple of hours. (paperback and e-book available for purchase online)
  + Chapter 1. What is special about infectious disease epidemiology?
  + Chapter 2. Definitions
  + Chapter 3. Descriptive epidemiology
  + Chapter 4. Risk, relative risk and attack rate.
  + Chapter 13: Routine surveillance of infectious diseases
  + Chapter 14: Measuring Infectivity
  + Chapter 15: Studying the natural history of infectious diseases