1. Definition of a double integral as a limit of Riemann sums

2. Computation of double integrals by iteration

3. Type I and type II regions:
   - given a region, how to decide which type
   - how to decide which type to use for integration if it is both
   - setting up limits of integration for each type of region
   - converting an integral from one form to the other form, and why we might want to do this

4. Polar coordinates:
   - definition of $r$ and $\theta$
   - converting to and from Cartesian coordinates
   - curve sketching
     - by plotting points
     - by using our “dynamic” method ($\theta : 0 \rightarrow \frac{\pi}{2} \rightarrow \pi \rightarrow$, etc.)
     - by converting to an equation in Cartesian coordinates
   - describing regions

5. Double integrals in polar coordinates

6. Applications to computing volume and area