SIESMIC AP Analysis Workflow

1. **Data Processing (Institution Specific)**
   1. Load pkgs
   2. Load full dataset
   3. Student level
      1. Rename std level variables
      2. Generate/recode std level variables
      3. Create std level variable dataframe
   4. Course level
      1. Rename crs level variables
      2. Generate/recode crs level variables
      3. Create crs level variable dataframe
      4. By course 1 and 2:
         1. Create dataframe of only first time taking 1st and 2nd course
   5. AP Level
      1. By AP subject
         1. Rename AP level variables
         2. Generate/recode AP level variables
         3. Create dataframe
   6. Create stacked dataset
      1. By course subject:
         1. Join dataframe for first time taking Course1, Course2, and AP
         2. Filter for inclusion/exclusion criteria
            1. Include:

First time freshmen

* + - * 1. Exclude:

Transfer students

International students

Honors

* + 1. Stack each subject by course
       1. Include new variable: “discipline” as flag for each subject

1. **Data Analysis (Same Across Institutions)**
   1. Load pkgs
   2. Load cleaned dataset
      1. Filter for student level inclusion/exclusion criteria
         1. Include:
            1. First time freshmen
         2. Exclude:
            1. Transfer students
            2. International students
            3. Honors
   3. Create dataframes for analysis
      1. By course:
         1. Took course 2