

Econ 100B: Economic Analysis – Macroeconomics
Problem Set #5
Due Date: October 9, 2020

General Instructions:

- Please upload a PDF of your problem set to Gradescope by 11:00 pm.
 - **Late homework will not be accepted.**
 - Please put your name and student ID at the upper right corner of the front page.
1. Beginning with the second equation for Y in the middle of slide 22 of lecture 9, carry out the algebra needed to obtain the equation for the IS curve shown on Slide 25.
 2. If the IS curve does not shift when autonomous investment increases by \$150 MM, autonomous taxes increase by \$425 MM, and no other autonomous components change,
 - (a) what is the value of the expenditure multiplier?
 - (b) what is the value of the tax multiplier?
 3. In our derivation of the IS curve we made the simple assumption that taxes are completely autonomous: $T = \bar{T}$. A more realistic tax function would be one where taxes increase with income as described by $T = \bar{T} + tY$. Follow the steps you undertook in question (1) with this more realistic tax function to derive a new IS-curve equation.
 4. Beginning with the IS curves shown at the top of slide 33 of lecture 9, write out the steps needed to derive the IS curve $\tilde{y} = -\zeta_y \tilde{r}$.