
Physics of Semiconductors and Nanostructures
ECE 4070 / MSE 6050, Spring Semester 2018
Assignment 6

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Policy on assignments: Please turn them in by 5pm of the due date. The due date for this assignment is Tuesday, May 15th, 2018.

General notes: Present your solutions *neatly*. Do not turn in rough unreadable worksheets - learn to **take pride in your presentation**. Show the relevant steps, so that partial points can be awarded. BOX your final answers. Draw figures wherever necessary. Please print out this question sheet and staple to the top of your homework. Write your name and email address on the cover.

Solve the following exercise problems from the course notes posted on the class website.

Problem 23.1 on Interface Roughness scattering limited mobility in semiconductor quantum wells.

Problem 19.1 on Boltzmann Transport and Mobility in Semiconductors.

Problem 28.1 on Semiconductor Solar Cells.

Problem 29.1 on Population Inversion, Optical Gain, and Lasing.