

# STAT 154, Fall 2013

## Midterm

Your answers to the following questions should be similar to the ones you would give during a job interview. So they should be short and to the point, and not vague when you refer to technical concepts.

Name:

Student ID:

Score:

**Problem 1**[10pts]

Explain what is logistic regression: describe for what it is useful, the underlying statistical model (i.e write the corresponding likelihood) and what optimization problem is solved in the logistic setting. (Your answer should be around 1 page)

**Problem 2**[5pts]

Explain briefly what is local linear regression. (If you're not sure, please talk briefly about Nadaraya-Watson estimators). Your answer should be around 1/2 page.

**Problem 3**[10pts]

You are hired as a consultant by a bank to help them decide whether or not to give loans to clients, for instance to buy a house. What would you do? (Your answer should range from 1 to 1.5 pages. Describe the statistical methods you would use and on what data (so explain what data you would need the bank to provide).)