**Name: (please print)**

# Final Exam

# Part B

**DSO547 – Designing Spreadsheet-Based Business Models**

**Section 16300**

**May 2, 2018**

**Hiroshi Ochiumi**

1 hour and 20 minutes

Part B of Final exam consists of 3 questions. All together the exam has a maximum of 30 points.

There are 5 pages including this page.

This is a closed-book and closed-notes exam.

You may access to blackboard during the exam.[[1]](#footnote-1) **No other network usage is allowed.**

There is a partial credit for each question. Try to show your work.

Do not be tempted to seek “inspiration” from a neighbor’s exam. Poor scores can be overcome, but cheating will be dealt with harshly!

Please sign here to indicate that you have adhered to university policies regarding ethical behavior in preparing for and completing this exam.

**Read carefully before you proceed.**

Download the Excel file.

Rename the Excel file using your full name now.

Example: 547\_final\_partB\_jeff\_lyn.xls

Each worksheet is already labeled:

Q1

Q2

Q3

Only the three worksheets with the above names will be graded. If you create any new worksheet (or tab), delete all of them before you turn in the file. If you have any other worksheet, I will take 5M points per sheet.

All the optimization problems should be modeled as linear. In your solver option, make sure you select “Simplex LP,” or “Assume Linear Model.” If you don’t, I will have to take 4M points off.

**Use Excel solver, even if you can solve without Excel**.

When you finish, upload your work to BB. Do not leave the classroom until your submission is confirmed.

Q1 (10 points) Mariana Bakery specializes in sourdough bread. Early each morning, Mariana must decide how many loaves to bake for the day. Each loaf cost $0.35 to make and sells for $1.15. Bread left over at the end of the day can be sold to a store selling day-old baked goods for $0.25. Past data indicate that demand is distributed as follows:

|  |  |
| --- | --- |
| Demand (loaves) | Probability |
| 15 | 0.05 |
| 16 | 0.05 |
| 17 | 0.10 |
| 18 | 0.10 |
| 19 | 0.20 |
| 20 | 0.40 |
| 21 | 0.05 |
| 22 | 0.05 |

What is the optimal quantity for Mariana to bake each morning?[[2]](#footnote-2)

Answer

1. This means you can see all the posted files within BB. [↑](#footnote-ref-1)
2. I know you can solve this question without Excel, but please do use Excel here. [↑](#footnote-ref-2)