# TIM 125/225 MOT II: Homework 3

# Demand Forecasting

------------------------------------------------------------------------------------------------

**TIM-125/225 Course website: https://tim125-winter17-01.courses.soe.ucsc.edu/home**

------------------------------------------------------------------------------------------------

**Planning**: As before, create a time-schedule for doing the readings and for working on the problems and project. Submit this schedule with your solutions. Also, track how well you follow your schedule, and make notes obstacles and problems to being “on track”.

**Reading**: SCM, 4th Edition, Chapter 3, “7-11 Japan” Case Study; Chapter 7 (Demand Forecasting)

------------------------------------------------------------------------------------------------

**Problems (due Thursday, 2 February, 2017):**

**Qualitative Problems**:

**Problem Solving**: Please use **your** structured problem-solving template to solve each problem.

1. **Seven-Eleven Japan,** SCM,4th Edition, Chapter 3, “7-11 Japan” Case Study,Study Questions 3, 6 (discuss this problem with your project group, but turn in your own individual solution). Each group must be prepared to discuss this problem in class on Tuesday, 7 February.
2. **Demand Forecasting:** SCM, 4th Edition, D7.1, 7.2, 7.9, 7.10

## Quantitative Problems:

1. **Tahoe Salt (Chapter 7 continued)** Forecast demand using the: 1) Static method (make sure to include the appropriate error analysis) **AND** 2) Moving Average and Simple Exponential Smoothing Forecasting methods. Your solutions should match the solutions in the book.

***[Note: If you have already completed the “static method” as part of HW#2, then you may use that solution as part of HW#3.]***

1. **Demand Forecasting for ABC Corporation**, Chapter 7, Exercise 1.

**-------------------------------------------------------------------------------------------------------------------**

## Project (Phase 2 due Tuesday, 7 February, 2017):

The items listed below are intended to serve as a **checklist** of the tasks you should be working and completing in Phase 2 (including any backlog from Phase I).

* During this phase of the project you should be actively working on SC Strategy, **demand forecasting,** and, if possible, inventory management for your product.
* Play the “MIT Beer Game”, and create (customize) a similar game for your own product.
* When estimating historical demand for your product, use (1) the product life-cycle model, and (2) the market analysis, and (3) cash-flow analysis that you performed last quarter.
* The team should also be actively building the software platform or “architecture” (in Excel) to manage the supply chain, in particular the demand-forecasting module. You are expected to build on your **experience** and **expertise** in programming and product design from courses such as CS 12A, CS12B, CS 180/182, TIM 58, and TIM 105 when developing the software product to simulate and manage your supply chain.
* Meet with the instructor on 02/07/2017 to review your work.