# Teaching Portfolio

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Department of Economics, Brown University

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I. Teaching Philosophy

As a graduate student at Brown University, I took advantage of teaching opportunities to train myself as a good economics teacher. Since 2007, I have been a teaching assistant, a course organizer and an instructor for more than a dozen of classes. I have taught classes of different sizes, from 18 to 500, students across a wide range of ages, from high schoolers, undergrads to grandparents, and at schools of varying orientations, including Brown, UMass-Boston and Bridgewater State University. My teaching style has proven effective: I consistently received high evaluations from students (average scores are above 4.3/5 for all the courses I taught as an instructor). In addition, I was selected as the sole recipient of the Reginald D. Archambault Award for Teaching Excellence by Brown University in 2009.

The most challenging and rewarding goal as a teacher is to stimulate students’ innate curiosity and motivate them to learn. This goal is challenging because designing suitable and fun classroom activities is never easy, but rewarding when I see the smile and confidence on students’ faces coming from their inner satisfaction. My strategies for achieving this goal are to create a game-like, experience-based environment and to assess students using interesting daily-life examples.

As an experimental economist, I love to develop games and experiments to create an experience-based environment for students to learn. Not only do I utilize my own research experiments in the classroom but also I design fun games particularly suitable for teaching. One example is the Coke-Sipping game. When teaching the definition of marginal utility and explaining why economists assume decreasing marginal utility, I give everyone a bottle of Coke and ask them to drink it a sip at a time. They are instructed to keep a record of their happiness (on a scale of 1 to 10) that they gain from each sip, then to present their results on the blackboard for discussion. I then introduce the definition of marginal utility and tell them that the numbers they have written down represent the marginal utility from each sip of Coke. Students are asked to observe the patterns of marginal utility. In most cases, marginal utility decreases with the number of sips of Coke. This experiential learning, I believe, keeps students curious as to why we human beings behave this way and motivates them to learn how this property is incorporated in economic models. Of course, they will never forget what decreasing marginal utility is! Additional classroom games, such as “Choosing a Marriage Partner” and “Deal or No Deal,” can be found on my personal website.

Rather than relying on traditional test questions, I try to make assessment creative and entertaining. One kind of assessment I always use when teaching the
price elasticity of demand is to have students guess the price elasticity of “the course.” Suppose there are 20 students in my class. Each of them pays $3,000 for this course. I first ask them to estimate the price elasticity of demand for this course and tell them I will reward the person with the closest estimate. Once they write down their estimates on a small piece of paper, I ask: “how many of you would have enrolled in this class if the tuition had been $3,500?” Perhaps fifteen say they would have. Now, students observe two points on the demand curve: $(P_0, Q_0) = (3000, 20)$ and $(P_1, Q_1) = (3500, 15)$. They can thus calculate the price elasticity of demand and see how close their estimates are. A quiz question like this has at least three advantages: it tests students on the definition of price elasticity in a relevant way, it challenges students’ economic intuitions about the factors that influence price elasticity, and it can be adapted to engage a huge class in discussion (I did this quiz in a class with 300+ students at Brown). A number of quiz/test questions, including “Keep it or Share it,” “Canolie Coupon,” and “Hurricane Fighter” are posted on my personal website.

Achieving my teaching goal is time and effort-consuming; however, for me, teaching complements research. When searching for teaching materials that can stimulate my students’ interest, I am inspired at the same time. When preparing a clear and organized lecture, my own communication skills are enhanced as well. When trying to answer students’ questions, I sometimes come up with good research ideas.

Most importantly, though, interacting with students and helping them pursue their goals is my greatest joy as a teacher.
II. Teaching Experience

Instructor:

Brown University

Principles of Economics, 2009, Enrollment: 19
How to Choose a Stock, 2011-2012, Pre-college, Enrollment: 20-25

University of Massachussetts – Boston

Principles of Macroeconomics, 2012, Enrollment: 35
Principles of Microeconomics, 2012, Enrollment: 38

Bridgewater State University

Principles of Macroeconomics, 2011, Enrollment: 32

Course Organizer:

Brown University


Teaching Assistant:

Brown University

Principles of Economics, 2008, Enrollment: 18
Investments I, 2007, Enrollment: ~60
Corporate Finance, 2008, Enrollment: ~120
Financial Markets and Investments, 2007, Pre-college, Enrollment: ~30
International Financial Markets and Investments, 2008, Pre-college, Enrollment: ~30
III. Teaching Evaluation

3.A Quantative Feedback

Below is the summary of student evaluations for all the courses I taught as an instructor and one course as a teaching assistant. Because the evaluation forms are different for each course, the average scores are calculated based upon students’ responses on questions about the instructor. Original evaluations can be provided upon request.

Table: Course Evaluation Summary

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Average score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 summer</td>
<td>Principles of Economics (Brown)</td>
<td>4.50</td>
</tr>
<tr>
<td>2011 summer</td>
<td>How to Choose a Stock (Brown, pre-college)</td>
<td>4.58</td>
</tr>
<tr>
<td>2012 summer</td>
<td>How to Choose a Stock (Brown, pre-college)</td>
<td>4.37</td>
</tr>
<tr>
<td>2011 fall</td>
<td>Principles of Macroeconomics (Bridgewater State U.)</td>
<td>4.33</td>
</tr>
<tr>
<td>2012 spring</td>
<td>Introduction to Microeconomics (Umass-Boston)</td>
<td>4.43</td>
</tr>
<tr>
<td>2008 fall</td>
<td>Investments I (Teaching Assistant, Brown)</td>
<td>~4.5</td>
</tr>
</tbody>
</table>

Note: Average scores are on a scale of 1 (very ineffective) to 5 (very effective).

3.B Selected Student Feedback

Principles of Economics (2009, Brown)

The instructor was a major strength of the course. He was knowledgeable in the field and thorough in explanations and lectures. The economics learning experiments conducted throughout the course were also a major strength in learning material and stimulating interest.

How to Choose a Stock (2011, Brown)

I really enjoyed how I was able to get a taste of all the economics course from Macroeconomics to Micro, Financial Accounting, and see how all of those concepts related to investing in stocks. I enjoyed the class and the teacher - he made it fun and engaging by using youtube videos, games, stock simulation, real life examples, etc.

He really seemed to know what he was teaching and always paused to asked us if we understood or had any questions, which was really good since it showed that he cared about our learning. He was nice, laid back, and fun. He made class interesting by using videos, games, real life examples.
**Principles of Microeconomics (2012, UMass-Boston)**

Very intelligent professor. He explains his material very well and always willing to help out students. Also, he integrates his material effectively.

**How to Choose a Stock (2012, Brown)**

I think that my instructor was genuinely very passionate about the material he was teaching, and that translated in his lectures. I liked how he tried to make a simple lecture more engaging by including youtube videos or even sharing his own investment strategies and past portfolios.
October 19, 2009

Tai-Sen He
Department of Economics
Box B

Dear Tai-Sen,

On behalf of the Office of Continuing Education, I am delighted to inform you that you have been selected as the recipient of the Reginald D. Archambault Award for Teaching Excellence.

Your application and supporting materials clearly demonstrated a creative and innovative approach to teaching applied to “Principles of Economics” this past summer. Student feedback indicated that the curriculum and resources developed for this course motivated and inspired learning. Additionally, your knowledge of the course material was praised by students as was your approach to teaching that made the material “vibrant, meaningful and useful.” Overall, the quality of your teaching was outstanding and serves as an example of the excellence that we strive to achieve in our programs.

We offer you our most sincere congratulations and are pleased to award you with a prize in the amount of $1,000.

Sincerely,

Karen Sibley, Ed.D
Dean of Continuing Education
THE REGINALD D. ARCHAMBAULT AWARD FOR TEACHING EXCELLENCE

TO

Tai-Sen He

ON THIS 29TH DAY OF OCTOBER, 2009

DEPARTMENT OF ECONOMICS
3.D Letter of Support

BROWN UNIVERSITY
Office of Continuing Education

Letter of Support for Tai-Sen He

September 14, 2012

It is a pleasure to write a reference for Tai-Sen He. I met Tai-Sen while he was teaching a course in the Pre-College Program at Brown University during the summers of 2011 and 2012. Our courses are for high school students who wish to prepare themselves for college. Tai-Sen’s course was entitled “How to Choose a Stock: An Integrated Course of Principles of Economics, Financial Accounting and Investments” (please follow this link for a one-page course description) and met for 45 hours in total. During the summer of 2011 I observed 80 instructors while they were teaching. I can say that I was impressed by Tai-Sen’s ability to teach and lead the class. In fact, we asked Tai-Sen to come back in the summer of 2012 to teach for us again – and indeed he did a great job once again!

Teaching is an art and a science and I observed many elements of both in Tai-Sen’s class. Tai-Sen’s class was so much more than a traditional lecture. It was an interactive class that was centered on the learner. Tai-Sen supported his power point presentation by writing the most important points on the black board – in addition to showing short video clips and leading discussions. His class was both educational and fun. He explained concepts well and clearly, and asked numerous questions to make sure that students were following. Rather than merely quoting formulae, it was refreshing to see how Tai-Sen derived those formulae step by step. Even during these tedious moments, it was obvious that the students were interested. In fact, some were taking notes, others were listening attentively, and yet others were asking questions. Of course, playing the game of “Deal or No Deal” was also really fun. Students were excited to participate in the game and at the same time were thinking and learning. Even the more serious follow-up discussion of analyzing the game and actually calculating the numbers was fun and definitely educational. I wish I had had an instructor like Tai-Sen when I was a student myself!

In summary, Tai-Sen is a great instructor, he knows how to deal with high school and
college students, and is in tune with what makes them click. Thus I would highly recommend Tai-Sen as an instructor at your institution.

Sincerely,

Esther Zirbel, PhD | Associate Director STEM Programs
Brown University Office of Continuing Education
42 Charlesfield St. | Box T | Providence, Rhode Island 02912
Esther_Zirbel@Brown.edu
IV. Teaching Material

4.A Sample Syllabi

ECON 0110: PRINCIPLES OF ECONOMICS

Brown University

Instructor: Tai-Sen He
Email address: Tai-Sen_He@brown.edu
Office Hours: By Appointment

I. General Information

The course is an integrated introduction to the analysis of consumers, firms and markets (Microeconomics), as well as aggregate economic variables (Macroeconomics). Topics in Microeconomics include consumer behavior (demand side), firm behavior (supply side), markets (combining both demand and supply sides) and how government policies affect them. Macroeconomics discusses two main variables: national income and general price level, both in the short-run and in the long-run. After taking this course, (I hope) you will be able to understand economic news, analyze social issues and problems from an economics perspective and apply the basic principles of Economics in your daily lives to make wiser decisions.

Classes meet on Tuesdays and Thursdays, 9:00-1:00pm.

II. Reading

The text is by N. Gregory Mankiw, Principles of Economics, 5th edition, 2008. We will be covering 29 of the 36 chapters in the book. You are not responsible for the chapters not assigned, but you are responsible for material covered in assigned chapters that are not discussed in lecture, except where explicitly stated otherwise.

III. Grading

Your course grade will be based upon homework assignments, two midterms, a final exam, and your participation in class.

Homework(10%): I will give you homework assignments once or twice per week.
They account for 10% of the course grade. I will drop the lowest two homework grades.

**Midterms(40%)**: Each midterm accounts for 20% of the course grade.

**Final(30%)**: A cumulative final will be given at the end. The final exam accounts for 30% of the course grade.

**Earnings(20%)**: Your earnings accounts 20% of the course grade. There are three ways to earn Econ dollars: 1) Quizzes 2) Presentation 3) Class experiments. I may give you quizzes without prior notice. I suggest you review what’s taught before class meets next time. If you have any question, make appointment with me for office hours. I may ask you to research some topics and present it in class. A few experiments/games will be conducted in class to enhance your learning. The total amount of Econ dollars you earn throughout the semester will be transformed into class points. Note: If you miss a class meeting, you lose the chance to earn Econ dollars.

**Final Grade Determination**: Generally, the top 40% of the class will receive A’s, the next 40% of the class will receive B’s, and the last 20% of the class will receive C’s. NC’s will not be given unless your weighted average score is lower than 40%.

**Letter Grade Guarantee**: If your weighted average score is over 90%, you will get an A regardless of whether you are in the top 40% or not. If your weighted average score is over 80%, you will get at lease a B.

**IV. Teamwork**

Teamwork will be encouraged, and rewarded, in this course. I suggest that you form study groups to make your studying more effective and efficient.

In the beginning of the second week, you need to tell me who your group consists of. Each group can have 3-5 members (no more, no less). You can submit either team homework assignments or individual homework (they will be graded on the same standards). Please do the work by yourself before discussing with your team members. Make sure you understand everything before submitting homework assignments. Your exam scores should reflect it. For each midterm and the final exam, **if each of your team members gets 80 or above, each of you will be rewarded N extra points** (N is the number of members in your group).
V. Schedule

ch. 1 Ten Principles *(Game: Test of Rationality)*
ch. 2 Thinking Like an Economist
ch. 3 Interdependence and Gains from Trade *(Game: Gain from Trade)*
ch. 4 Supply and Demand *(Experiment: the Marginal Utility of Cokes)*
ch. 5 Elasticity
ch. 6 Supply, Demand, and Government Policies
ch. 7 Consumers, Producers, and Market Efficiency
ch. 8 Costs of Taxation
ch. 10 Externalities
ch. 11 Public Goods and Common Resources *(Experiment: VCM Experiment)*
ch. 12 The Tax System

1st Midterm (ch1-12)

ch. 13 Costs of Production
ch. 14 Competitive Markets
ch. 15 Monopoly
ch. 16 Monopolistic Competition
ch. 17 Game theory and Oligopoly *(Lab Experiment: One-shot and repeated Prisoner’s Dilemma game, conducted at CIT265)*
ch. 18 Factors of Production
ch. 19 Earnings and Discrimination (Group Presentation)
ch. 20 Income Inequality and Poverty (Group Presentation)
ch. 23 National Income *(Youtube video: Problems of GDP)*
ch. 24 Cost of Living *(Youtube video: Consumer Price Index)*

2nd Midterm (ch 13-24)

ch. 25 Economic Growth (Group Presentation)
ch. 26 The Financial System: Saving = Investment
ch. 27 The Basic Tool of Finance *(Game: Deal or No deal)*
ch. 28 Unemployment
ch. 29 Money
ch. 30 Money Growth and Inflation *(Game: Money Creation)*
ch. 33 Aggregate Demand and Aggregate Supply
ch. 34 Monetary Policy and Fiscal Policy

Guest Speaker Talk: Eunice Png ‘09 will discuss how the study of Economics help her to start up a functional lingerie company.

Final exam (cumulative)
CEEC 0919: How to Choose a Stock

An Integrated Course of Economics, Financial Accounting and Investments

Instructor: Tai-Sen He

Email address: Tai-Sen_He@brown.edu

Office Hours: By Appointment

Class Meeting: Monday-Friday, 9-1150am, during Jul 23-Aug 10

Place: Wilson Hall 205

Course Website: http://mycourses.brown.edu

Course Description:

For this course, you do not need any background in Economics or Finance, only a passion for learning. Course materials will be delivered in a simple, interesting and organized way while covering three undergraduate-level Econ courses: Principles of Economics, Financial Accounting, and Investments. To make it simple, materials taught are carefully chosen and tailored to meet beginners’ capacity. Only materials that are relevant to stock selection will be taught. For example, in Principles of Economics, we will talk about how markets work and how to read macroeconomic indicators while skipping over topics such as externality, public goods, and inequality. In Financial Accounting, you will learn how to read financial statements and interpret key financial stats but will not be learning bookkeeping in detail. In Investments, we will focus on how to evaluate a stock and how to choose the timing of trading but skip topics such as portfolio theory and financial derivatives. To make it interesting, news articles, Youtube videos, games and experiments will be widely used to stimulate your interest and challenge your understanding of the materials you learn in class. Finally, this course presents a well-organized conceptual framework in which you will understand how the ideas taught are related. This framework is composed of four main elements: macroeconomic analysis, industry analysis, firm-level analysis, and technical analysis.

This course not only provides you with a theoretical framework but also encourages you to gain hands-on experience in trading. You will learn how the conceptual framework can be applied to analyze the news, charts, and key stats on Google Finance. In addition, you will be required to trade in a practice brokerage account. At the end of the course, you will be awarded with real money based on the performance of your portfolio.

This course is also suitable for students with a general interest in Economics. The broader coverage of this course offers you not only a taste of three different subjects but also a broader picture of what Econ concentrators learn at Brown.
addition, this introductory course aims to develop students’ practical ability to utilize economic theories. Hopefully, you will leave Brown with these Econ tools and find them useful in your life.

Suggested Reading:

1. **Economics:**
   
   

2. **Finance:**
   
   Ivo Welch, *Corporate Finance*, available online(http://book.ivow Welch.info/ed2/)
   

Evaluation:

This is a non-credit pre-college course. You will receive a course performance report a few weeks after the class ends. You will be evaluated in four ways:

1. **Quiz & Exam:**
   
   Quizzes will be given very often. You should make sure you understand everything in a timely fashion. Exams will be given if necessary.

2. **Participation:**
   
   You are encouraged to actively participate in the class. You will earn credit by asking good questions, presenting your homework assignments, and participating in classroom games/experiments.

3. **Group Presentation**
   
   You will work with your teammates on a group project which aims to evaluate a local business of your choice. I suggest you select a business within walking distance so that you can interview with the owner and conduct simple market survey more conveniently. You will build pro-forma financial statements and use the DCF model to evaluate this business.

4. **Simulation stock trading:**
   
   You will have a simulated brokerage account and be rewarded with real money at the end of the course based on the performance of your portfolio.
You will start with $1,000,000 in your simulated brokerage account. To give you close-to-reality feeling of trading, you can trade 24/7 at real time prices. Please think carefully and utilize the tools you learn in class before you place an order since it will affect your earnings.

At the end of this course, I will calculate everyone’s ending balance and reward the top 3 students. Cash reward is based on the rate of return of your portfolio. The rule is simple: $X earned for X% rate of return. For example, if the rate of return of your portfolio is 5%, you will be rewarded with $5. There is a $30 limit on the reward.

**Tentative Schedule:**

**Week 1**
Topic 1: What is an investment?---Discounted Cash Flow (DCF) model  
Topic 2: How to trade stocks? -- Demand and Supply  
Topic 3: Demand and supply in detail  
Topic 4: Technical Analysis

**Week 2**
Topic 5: What is the appropriate rate of return? – CAPM  
Topic 7: Firm-level Analysis II – Business Evaluation  
Topic 8: Warren Buffet Documentary (Youtube video)

**Week 3**
Topic 9: Macroeconomic Analysis – AD/AS model, Fiscal/Monetary policy  
Topic 10: Industry-level Analysis – Game Theory, Porter’s Five Forces Model  
Group Presentation
Appendix: Conceptual Framework

Your Portfolio

- Fixed Income
- Stocks
- Real Estate

Stock Selection

- Fundamental Analysis
  - Macroeconomic level
  - Industry level
  - Firm level
- Technical Analysis

---Financial Accounting---

------------------------Investments------------------------
4.B Other Teaching Material

I have developed a few classroom games and experiments as well as creative assessment questions since 2009 when I first taught as an instructor. They can be found on my personal website. Below is a brief list for your reference.

Games and Experiments

1. Risk Aversion: Deal or No Deal
2. Are you Rational? Choosing a Marriage Partner

Assessment Questions

1. Game Theory: Keep it or Share it?
2. Price Discrimination: Canobie Coupon
4. Do the Ten Principles of Economics Apply to Monkeys’ Behavior?