# Marketing 265 (001): Principles of Advertising Spring 2016

Tues-Thurs 1:30-3:00, Room F36

file: Syl-265-S-2016-R20

#### J. Scott Armstrong

Office: 747 Huntsman
Office Hours by appointment:

Phone: 215-898-5087 (w); 610-622-6480 (h); Fax: 215-898-2534 (w)

Email: <a href="mailto:armstrong@wharton.upenn.edu">armstrong@wharton.upenn.edu</a>
Website: <a href="mailto:http://www.jscottarmstrong.com">http://www.jscottarmstrong.com</a>

UPDATED VERSIONS OF THE SYLLABUS WILL APPEAR ONLY ON CANVAS

# **Objectives**

"Advertising is fundamentally persuasion." Bill Bernbach, 1960

The learning objectives are to gain skills in:

- 1. Evidence-based principles for creating persuasive advertising campaigns. A 15-year effort to summarize a century of research led to 195 persuasion principles. These principles do not appear in any other book (Armstrong 2011).
- Evidence-based techniques for improved decision-making in advertising. There are currently 48 useful techniques. Use the <u>Tools and Techniques Spreadsheet to guide your learning and track your progress.</u> For example, one of these tools, the <u>Persuasion Principles Audit</u>, will allow you to make accurate pretests of which of a set of ads (for the same product and brand) will be most effective.

## **Internet option**

This course offers an Internet option that allows you to (1) schedule your learning at times that are convenient for you, (2) go though the materials at your own pace, and (3) allocate time to tasks that are most important to you. Said another way, you are responsible for scheduling your activities for the course.

A <u>small-scale test of an economics course at Stanford</u> found that those who used the Internet version did better on the final exam than those who attended the classes. That course apparently focused on content. My course can also aid in skill training, which requires practice and feedback from others that can be done in class sessions. Internet learning can aid this skill training. See "<u>Natural Learning in Higher Education</u>" for a review of the reasons and evidence.

Learning is aided if you consider how you would approach a problem prior to hearing about the evidence-based approaches. This is part of the "experiential learning" approach. In this option, students are expected to work through the on-line "experiential lectures" on their own and to plan applications. The class sessions will be used to get feedback from the professor and from other students on how well you have been able to apply the principles and techniques from this course. Internet learners in this course can find learning partners via the classes or on Canvas for additional help.

There are four required classes. One for planning, one for the final exam and two for your presentations.

#### Content

Following Benjamin Franklin's advice, this course is designed to provide useful knowledge along with suggestions on how to apply that knowledge. I believe that there is only one reliable source for useful scientific knowledge — experimentation.

One study estimated that "persuasion is one-quarter of the GNP." The persuasion principles apply not only to advertising, but also to many other aspects of life, such as preparing a résumé, convincing your friends about an issue, making a persuasive speech, or writing a management report. In addition, as a consumer, you will be better able to defend against advertising "tricks."

#### Guarantee

If you follow the directions as specified, by the end of the course you should be more able to design and evaluate persuasive advertising campaigns than most practitioners with many years of experience. For evidence on this, read <u>Armstrong</u>, et al (2015).

### **Learning Resources**

**Instructor:** My role is that of a coach. My responsibility is to provide you with (1) access to upto-date evidence-based principles and techniques, (2) learning exercises, and (3) feedback about your ability to master the principles and techniques.

I take no responsibility for your learning and I try to minimize my evaluation of your grade by having the required materials evaluated by independent assessors.

I am available to comment on your work during the classes; however, if time is lacking, you may give me a copy to review and I will try to have it ready for you to pick up in-person by the next class. I will be in the classroom every period for the full semester. For more information about me, see <a href="mailto:my homepage">my homepage</a>.

**Canvas** is primarily for communication with others in the class. If changes are made on the syllabus, the revised version will be posted only on Canvas. Please contact me by email, not by Canvas.

**Text (mandatory):** The text is *Persuasive Advertising* (Palgrave Macmillan 2010), a runner-up for AMA's 2011 Best Book in Marketing. It is #1 in a Google Search for "advertising" and "Principles." The aim of *PA* was to summarize all useful knowledge about persuasive advertising so that advertisers, consumers, consumer groups, courts, and government regulators can use it. It is the only advertising book that provides evidence-based principles. Copies available at Amazon.com and the Penn bookstore. See adprin.com as needed for new findings and changes to the book. Part of the exam is based on the "end-of-chapter." The questions that are posted on the Internet and this is the part that students do poorest on. (In the past year, the grades on the the end of chapter exam ranged from 10% to 95% with an average of less that 60%

The lectures do not provide all of the conditions. You will need to use the book in order to apply the principles.

**Website:** AdPrin.com won the Merlot Award as the best educational site in business and economics in 2004 and is currently rated as the best of over 263 educational advertising sites on Merlot. It offers spreadsheets for applications, describes Techniques and Concepts for Advertising, and provides print and video ads that illustrate good (and bad) applications of principles. To learn more about AdPrin.com, read the FAQ and take a tour of the site. If you see ways to make the site easier or more useful for students or would like to notify me of any errors, please send me an email.

In addition, there are resources to help you run meetings, make presentations, gain acceptance for change, use research techniques, and more on Scott Armstrong's <u>Educational Materials</u>. The course's experiential lectures are all available on AdPrin.com under the "Educational Materials" link as well.

The self-directed testing provided on this website will enable you to learn much more efficiently. <u>Test taking</u> helps people learn content. Given equal study time, you will learn much more by self-testing than by simply reviewing the material.

AdPrin.com provides "end-of-chapter self-testing" in which you can check the book and grade your answers. In addition, there are true-false, multiple choice, and open-ended tests for which you can grade your answers, along with an exam on advertising tools and techniques. The following suggestions will enable you to more effectively retain the learning:

- 1. Take the tests near the beginning of the course. This will enable you to determine what you do not know, and you will find new information to be more meaningful when it fills in an answer later in the course.
- 2. Take the first test very soon after studying material to have high retention. The previously mentioned study on <u>test taking also</u> showed that learners lost about 30% of the content within five minutes.
- 3. Take the tests in short sessions. Avoid massed learning. Retest yourself after a week or so.
- 4. Repeat the tests after intervals of a week or more.

**Class Sessions:** Classes are not required with the exception of a planning sessions, the final exam and the final presentation (two days).

The purpose of the class sessions is to help you gain skills with some of the 195 principles, 48 techniques (including the six primary checklists relevant to this course). Nothing is graded in the class.

Go through the slides in "Slideshow" format prior to coming to class. You will also need to read the *Persuasive Advertising* book, as the lectures include only the primary conditions for the principles and not enough detail is provided on the procedures and evidence to make applications. Also check the linked articles in the lectures.

Additional things for you to do in class:

- (1) Make short PPT presentations on your applications of techniques and gain feedback from other participants
- (2) Ask questions to aid your understanding of the applications
- (3) Meet with your learning partner or project group

**You:** The primary resources for successful learning are your time and energy. Set a budget for the number of hours you will spend on the course and track your hours.

The course is not difficult to pass. Failure is rare. If you follow my advice and practice the exams, you will be able to see what your exam grades will be. Concerning the other components, such as the Tools and Techniques Exam, get suggestions for improvement from me during the class workshop sessions. You cannot do all of the readings and exercises so pick what you believe to be the most useful and put these on your timeline. A **proper timeline** will greatly improve your success in this course.

#### **Requirements and Grading**

Here are the requirements to demonstrate competency with the principles and techniques (weights for grading in parentheses):

- 1. Final exam (50%)
- 2. Advertising proposal project (30%)
- 3. Self-certification report (15%).
- 4. Tools and Techniques Take-home Exam (15%)
- 5. Participate in the required sessions (0%)

#### 1. Final Exam (in class):

The questions will be taken from the <u>Persuasive Advertising</u> book, the adprin.com site, and the experiential PowerPoint "Lectures." The questions are posted on adprin.com on the <u>Educational Materials</u> page. (The majority of the answers are also posted on AdPrin.com. Some questions will be selected from the questions and answers provided as "<u>Self-administered Exams</u>" on adprin.com. (10-point bonus on the exam score if test is taken at this time.)

I have been using the *in-class final exams* for a few years. By taking the tests on your own you will be able to predict your final scores reasonably well. If not satisfied with your score, retake the tests after an interval of a week or so until you achieve the desired score. For additional information on how to

improve your scores, see the advice under Self-Testing Materials in the "website" section below. I will be pleased if all of you get A's on the exam.

Here are benchmark averages and ranges in percentages for Wharton students the first two versions of this format. (The \* signifies that answers were provided in advance; for the other tests, only the questions were provided at the beginning of the course.) These grades do not include on-time bonus points. In the past, the low grades on the open—ended and end-of-chapter exams seem to have been due to the lack of effective timelines. The Fall 2015 class improved substantially on this. Still there is much room fro improvement. Why would someone be satisfied with a score of around 10% when going into an exam?

	<u>Fall 2014</u>		<u>Fall 2015</u>	
	<u>Average</u>	Range	<u>Average</u>	Range
T/F*	95	68-100	98	94-100
Multiple Choice*	92	74-100	99	96-100
Open-ended*	58	8-91	77	53-93
End-of chapter	54	10-75	65	32-95

The course grades will be based on a relative scale unless they are high relative to previous classes. In that case, there can be more high grades, as has happened in Fall 2015.

- **2. Advertising Campaign Proposal:** Pick a project to advertise a product, service, cause, event, local business, or charity at a U of PA event. It must be a high-involvement utilitarian product (or service). That is, do something useful. The project (individual or up to five people) should consist of a campaign that allows you to provide the following:
  - 1. Create at least two print ads, one video commercial, and one website mock-up.
  - 2. Show the use of <u>checklists for creating each of the print ads</u> as well as other ads you create.
  - 3. Use the persuasion principles audit for each of the ads that you created for step 1 above.
  - 4. Use copy-tests to compare two print ads. Show the instruments used and other details from the copy testing lecture.
  - 5. Recommend a media plan for your print advertisements using each of the procedures (except experimentation) described in Appendix E of *Persuasive Advertising*, provided on adprin.com
  - 6. Show the use of tools and techniques. (You will annoy ckients if you use jargon and fail to show what you did in detail.
  - 7. Provide a five-page report following the <u>outline on AdPrin.com</u>. (Appendices up to 10 pages)
  - 8. Evaluate your report using the checklist for rating ad proposals. Seek independent ratings.

Am Independent grader will be asked to ensure that the project has (1) all of the required components, has (2) demonstrated that all of the relevant checklists have been used properly, (3) and how likely they would be to use this firm for advertising versus other competing firms.

**3. Self-Certification Report**: A good self-certification report should persuade prospective employers. It describes what you did. It can demonstrate that you are good at self-planning (e.g., via timelines), a trait that relates to success in careers. Provide sources that are easy to obtain and provide convincing support for your claims. Provide samples of your work.

If you do not already have a personal website, I suggest that you create one so you can link to your certification report. Alternatively, consider posting this on a Linked-in site.

A grader who is not familiar with the course will be asked to take the role of a potential employer and, based on this report, to judge how likely she would be to schedule an interview with the student.

4. **Tools and Techniques: Take-home Exam:** Explain how you were able to apply five of the <u>tools and techniques</u> to your advertising project and do it in such a way as to impress someone who has not previously heard of these techniques. That person would grade the application using a 0 (very low) to 10 (very high) for each of the six criteria. The score will add the ratings for "a" through "d" for each

technique. For example, the degree of difficulty for brainwriting is low; it will look like something of	ne
can learn in five minutes, and most people will not perceive anything new about this.	

a. importance	
b. demonstrated	usefulness
c. new to the gra	der
d. believable evi	dence that you mastered the technique
e. Persuasive des	cription
f. Difficulty of le	earning the technique.

This is a take-home exam and you must work individually. That said, you are allowed to ask people *who* are not in this course to grade your answers and to give you feedback.

#### **Ground rules:**

- 1. No credit provided until you submit all materials
- 2. I try to provide a fair system and then to follow it to the best of my ability. I do not negotiate grades.

# Schedule for Marketing 265 (001): Advertising – Spring 2016

# Tuesday & Thursday classes\*

(See details on the following pages)

<b>Lecture</b>	<b>Date</b>	Lecture Title (main activities in bold)		
*Note that four sessions are <b>REQUIRED</b> . If you miss any submit a written reply on your solution.				
	The <b>Bold</b> are topics that will be discussed on each day to help you gain skills and <i>do well on the project</i> .			
1	1/14	Introduction Lecture (details below)		
2	1/19	Creativity and evaluation techniques Lecture. Use the techniques to select a project (details below).		
3	1/21	Conditions Lecture: Describe objectives for the client in your project.		
4	1/26	Target Market Research Lecture. Design questionnaire to assess target market.		
	Information Lecture: Take the Final exam for T/F, Multiple choice, and Open-ended (80 minutes) and re			
5	1/28	scores.		
6	2/2	Progress to date on your written project with timeline (REQUIRED Session) (details below)		
		Influence lecture: Preparation for the Waste Management report (details below). Use the?		
7	2/4	Persuasion Principles Checklist		
8	2/9	Emotion & Mere Exposure lecture: Take Self-training Course for the <u>Persuasion Principles Audit.</u>		
9	2/11	Present Waste Management oral proposal (PPT). A practice session for your project.		
10	2/16	Resistance lecture (my favorite; surprising and useful persuasion principles),		
11	2/18	Acceptance Lecture. Workshop to prepare Ansett case.		
12	2/23	Proposal for TV commercial for the Ansett case.		
13	2/25	Message lecture: Show website prototype for your project.		
14	3/1	Attention Lecture; Also Copy Testing Lecture; Also use the "Features" section of Copy Testing.		
15	3/3	Mid-semester Assessment: Bring your ideas about how you can improve your learning. (See below).		
		SPRING BREAK		
16	3/15	<b>Pretest two print ads for your project.</b> Show PPI and copy testing results (small sample).		
17	3/17			
18	3/22	Media allocation lecture: Present your solution to the Gardenburgers case.		
19	3/24	Still media lecture.		
		Motion & sound media lecture. <b>Show video commercial for your project.</b> Use Persuasion Principle.		
20	3/29	Audit to fix.		
21	3/31	Evaluating an advertising proposal: Do the <i>Seducing these Men</i> exercise (Details below).		
22	4/5	Legal Aspects Lecture: Add to your proposal.		
23	4/7	Revise your resume: Bring original and revised versions using hard copies.		
24	4/12	Slack day to address questions you have about the exams and projects.		
25	4/14	In-Class Exam (REQUIRED class)		
26	4/19	Rehearsals for the final presentation. Workshop with sister groups.		
27	4/21	Presenting Oral Proposal for your project to Clients - (REQUIRED class)		
28	4/27	Presenting Oral Proposal for your project to Clients - (REQUIRED class)		

All required materials other than the final exam are to be submitted on or before 4PM on May 3. Provide hard copy (with electronic back-up if you like.) Ten-point bonus on the exam score if it is on time. Ten-point bonus on the total score for the other deliverables if all submitted on time.

#### **Procedures and Notes on the Schedule**

We will follow the schedule unless we decide that a change is needed. The electronic version is easier for you to use as it has links to key materials. Updates will be provided electronically about any changes. Please send me emails about mistakes and broken links on the syllabus.

#### Here are the guidelines for the Standard Classes.

- 1. Classes are optional
- 2. There is no grading during the classes. The instructor will simply act as a coach.
- 3. You can come and go as you please.
- 4. Please bring your laptops, the *Persuasive Advertising* book, and hard copy of your work materials to all classes.

In short, the standard classes will be run as workshops and as ways you to gain feedback on your work.

#### When there is a *scheduled presentation*:

- 1. Present as if this were a real situation. DO NOT PRESENT IT IN THE STANDARD "STUDENT ROLE."
- 2. We will try to allocate time equally.
- 3. Everyone will be asked to provide helpful suggestions to the presenters on the use of principles, techniques, and checklists.

Details on some of the sessions:

Doum	on some of the sessions.
S1	Introduction lecture (Preface, Introduction, Types of evidence from PA) I assume that many people will not prepare for the first day.
	Class: Why techniques and research findings are valuable in advertising. 1) Bose Ad Exercise [adprin.com under Educational Materials/exercises]2) Find a learning partner.
	3) Form short-term groups of up to six people to start the first task (optional). That task is to produce a print ad to advertise your group as a new ad agency.
	Follow-up:
	1Read this course outline and see if you can make any improvements. If so, send an email to the instructor
	2Take the five-minute "Test your advertising IQ."
	3. Read the AdPrin FAQ.
S2	Creativity and evaluation Lecture
	Standard Class preparation plus
1.	Use the techniques and checklist in the lecture to develop a number of possible project ideas for a
	avolvement utilitarian product or service.
	Use the evaluation techniques to narrow the list to <i>two</i> possible products to advertise3. When
	scuss a project with a potential client, use <u>non-directive interviewing</u> .
S3.	Conditions
	Standard Class preparation plus:
	1 See the <u>House Ad task</u> (optional) to advertise your group as an ad agency; apply
	concepts and techniques for the section on "Names" on AdPrin. The house ad should
	include the names and contacts for all group members in the ad. Use the "Persuasion
	Principles Checklist" for Creating Ads. Use virtual groups after your first meeting.
	Some of you may decide that you would to continue to work together.
C4	
S4	
<b>S5.</b>	Information lecture

- 1.\_\_\_Also do the ten-minute individual exercise "Predict Which Ad Pulled Best"
- 2. Read "Predictive Validity of Evidence-Based Persuasion Principles"

#### S6.\_\_\_\_PROJECT REPORT DRAFT. REQUIRED CLASS.

Bring four extra copies of your project report, the Advertising Proposal. Get suggestions on your written project report form other teams and from Scott.

#### S7.\_\_\_\_ Influence Lecture: Waste Management Proposal (Optional)

Preparation session for the advertising pitch for Waste Management. Use the principles to date to propose a TV campaign for Waste Management, but focus especially on applying the influence principles. As in all ad design cases, use the <u>Persuasion Principles Checklist</u>. Do not look up any information about Waste Management. Use the <u>outline for advertising proposals</u>. Form groups if and as you like. The process will be similar in format to the final project proposal.

- S8. \_\_\_\_ Emotion & Mere Exposure Lectures
- S9. \_\_\_\_ Present Oral Proposals on Waste Management
- S10. \_\_\_Resistance Lecture
- S11. \_\_\_ Acceptance Lecture

Workshop to prepare strategy for a requested TV campaign for the Ansett Airlines (optional)

#### S12.\_\_\_\_ Present Ansett proposal (PPT)

Present strategy and storyboards for Ansett (on PPT)

#### S13 Message Lecture

**Class:** Bring a mock-up of a website for your project along with a list of the techniques and materials that you used to design the site. Exchange your mock-up with others

- 1. Use the <u>checklist of advertising principles</u> section on message to develop the mock-up of a website for your project. Consult *PA* as you make the applications.
- 2, Examine books on how to design a website, such as Lynch, Patrick J. & Sarah Horton (2009)
- S14. \_\_\_ Attention Lecture. Pre-Testing Ads by PPI and Copy Testing
- **S15.** \_\_\_\_ **Mid-semester Assessment** that will be posted on Canvas
- S16\_\_\_\_ Pretest two print ads for your project first by Copy Testing then by the PPI.

Make a short presentation to a client explaining how these analyses should be uses (PPT)

#### S17. \_\_\_\_ Obtain Feedback on your Self-certification report.

**Class:** Lecture and exercises. We will examine a short case.

#### S18.\_\_\_\_ Media allocation Lecture

Class: Present your solution to the <u>Gardenburgers Exercise</u>. We will use Gallery Writing. This is an actual case; do not check what happened. Use only the information in the materials provided to you. Use each of the procedures to estimate how much should be spent on the total advertising budget and how the budget should be allocated across media. Develop an estimate for each method by averaging across analysts. Then combine across each of the methods.

#### S19. \_\_\_ Still Media Lecture

Apply Persuasion principles to your written report, along with the Reading, including all principles and not just those related to print. Bring extra copies to get suggestions from others. Use the Persuasive report checklist and compare your index with those from others.

#### S20 \_\_\_\_Motion and Sound Media Lecture

Bring a storyboard for a video commercial that you plan to use for your project. We will then go through the lecture so you can see how to improve the storyboard.

Use a smartphone to create a 30 to 60 second video to advertise your project. The exercise takes about 2 hours; more time will, of course, lead to a better commercial As an alternative, consider an animated movie maker, such as <u>Plotagon</u>, <u>GoAnimate</u>, or <u>Movie Maker</u>.

S21	Evaluating an Advertising proposal: "Seducing these men"
	Analyze the proposal in "Seducing these Men" by using "Rating Ad Proposals."
	Then repeat the exercise using your project.
	Report on each of these audits in class by using Gallery writing.
S22	Legal Aspects Lecture
S23_	_ Revise resume using the <u>Persuasive Report Checklist</u> .
	Bring hard copies to get feedback from others
S24	_ Slack day
S25	_In Class exam
S26	_Rehersals for final presentation
S27 &	28 Present oral proposals on PPT

Time will be equally allocated. Random selection will be used to pick order of presentation. Five-point bonus on your presentation if you present according to your order of presentation, so be on time.

#### **Self-Certification**

The self-certification enable a student to become certified for "Evidence-based Advertising." Your report is useless unless it is persuasive. To be persuasive, it needs to show what you did *in detail*. It needs to report facts, not your opinions. Thus, if you have not kept a time log, do not guess how much time you spent. Provide links to published sources that you used. (But it it unethical to cite a paper that no one on your team has read). Avoid jargon unless it is explained.

Provide a cover letter. In that, you must provide a code of ethics or "oath" that you have followed. Write this oath at the start of the class and put it on the Internet to support the fact that it was written at the near the start of the class.

Budget a certain number of hours per week that you will spend on your learning for this course. I suggest 10 hours per week for those who want to improve their skills.

Consider how to impress a prospective employer without overburdening them with material. If you do not already have a personal website, I suggest that you create one to link to samples of your work.

The Certification Form is provided on the next two pages.

# Self-Certification for Evidence-based Advertising Principles and Techniques

This evidence-based advertising course has been under development by Wharton Professor J. Scott Armstrong since 1990. It is designed to help people apply the cumulative knowledge developed from experiments over the past century. Research evidence demonstrates that ads that follow evidencebased procedures have been shown to be more effective than those that do not. The research on the principles is summarized in *Persuasive Advertising*.

I certify that I have completed the advertising course. (Link to the course syllabus.) I list the tasks that I completed in my efforts to learn advertising principles and techniques (inputs) and my tangible achievements (outputs). I can provide supporting information on items marked with an asterisk.

NAME (Last, First)	Date	Mkt 265
Please Print		
	Inputs	
I-1. I have documented spending hours for a on each day that I spent time. (Time log required		
I-2. I have studied the <i>Persuasive Advertising</i> booso. The entries were recorded on the day that I spe		_ hours doing
I-3. I have completed of the <u>experiential lec</u>	tures on AdPrin.com. Provide list in App	pendix)
I-4. I have used the evidence-based checklist for g	oral presentations times. (show PI ar	nd details)
I-5. I have used the evidence-based checklist for	written presentations times. (show P)	I and details)
I-6. I completed the <u>multiple-choice &amp; T/F exams</u> % My actual score was% on the	times and my most recent scores are exam proctored at Wharton.	averaged
I-7. I ompleted the <u>open-ended exam</u> on AdPrin.c score was percent.	com that was proctored by the Wharton S	School. My
I-8. I completed the full set of the <u>end-of-chapter</u> score waspercent.	questions that was proctored at the Wha	ırton School. My
I-9. I have attached the spreadsheet showing my fadvertising It shows my before and after ratings of	•	ques for
I-10. I have examined the <u>new evidence on the pr</u>	rinciples that is on AdPrin.com. YES	_NO
I-11. I have used the skill-rating sheet and the ma are attached. YES NO	stery chart for techniques to guide my le	earning and they
I-12. I have applied the <u>Checklist of Advertising I</u> websites, and radio ads.	Principles to create print ads,	_ video ads,
I-13. I have worked through all of the experientia	l exercises on AdPrin.com. YES NO	)
I-14. I have guided my work by using the attached	d timeline. YES NO	
I-13. I have completed the self-training course for	r the Persuasion Principles Audit. YES	NO

# Outputs

O-1 I have applied the <u>Checklist of Advertising Principles</u> to create print ads
O-2. I have applied the Checklist of Advertising Principles to create video ads
O-3. I have applied the Checklist of Advertising Principles to create websites.
O-4. I have applied the Persuasion Principles Audit to print ads.
O-5. I have applied the Persuasion Principles Audit to video commercials.
O-6. I have applied the Persuasion Principles Audit to websites.
O-7 I have applied the primary techniques for setting media <u>investments</u> for campaigns
O-8. I have written an advertising proposal and checked it against recommended procedures. YES NO If Yes, provide access.
Independent testing
Q-1. I have taken an 80-minute test on my mastery of the content in this course. Professor Armstrong gave the test at the University of Pennsylvania on (date) My grade on the exam was
Your Name (PRINT; Last Name First)
Signature Date

This Certification Report form has been created by Professor J. Scott Armstrong at The Wharton School, University of Pennsylvania. He uses this in his course at the Wharton School to allow students to demonstrate their mastery of the content.

Dec 24, 2015