

ECON 4910/8916; BSAD 8916-003

[the course has been approved as an official elective, and at some point (maybe after this semester) will have the following official course numbers: BSAD 8736; ECON 4730-001; ECON 4730-099 (honors); ECON 8736-001]

The Economics of Entrepreneurship

Fall 2010

(last revised: August 16, 2010)

Arthur Diamond

Office: Mammel Hall (MH) 332K

Office phone: 554-3657

Office hours: 4:10 - 5:40 PM Tues. and by appointment.

Email address: adiamond@unomaha.edu

Academic Home page: <http://cba.unomaha.edu/faculty/adiamond/web/diahompg.htm>

Seminar Description:

The three credit-hour seminar meets on Tuesdays from 6-8:40 PM. The course will be conducted mainly as a seminar with ample student participation, including a research paper.

Economic theories of entrepreneurship will be briefly reviewed, with special emphasis on Schumpeter's theory of creative destruction. The main focus of the seminar will be on the "high-level" entrepreneurship that sometimes results in major innovations. During most of the seminar, students will read and discuss recent articles on questions such as the following. What are the benefits of entrepreneurship to society? What determines who chooses to be an entrepreneur? What attitudes, training, and practices can an entrepreneur adopt to increase her chances of success? What social institutions and government policies best encourage entrepreneurship? Can incumbent firms survive and prosper in an entrepreneurial environment? Near the end of the seminar, each student will give a presentation based on their term paper.

Approximately the first 13 weeks of the seminar will focus on instructor-led discussion of important topics in the economics of entrepreneurship. Readings for this section of the course will consist mainly of research papers on the topics under discussion.

During the course, some time will be spent reviewing the characteristics of good writing style in economics and on effective research techniques

During the last two weeks, or so, of the seminar, instructor-led discussions will be significantly supplemented by student presentations on topics related to their papers and reviews.

Prerequisite:

ECON 2200 or permission of the instructor.

Required Texts:

Baumol, William J., Robert E. Litan, and Carl J. Schramm. *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*. New Haven: Yale University Press, 2007. [Assigned chapters will be posted on BlackBoard as free PDFs that can be read and printed.]

Bhidé, Amar. *The Origin and Evolution of New Businesses*. Oxford and New York: Oxford University Press, 2003. [ISBN # 978-0195170313] [Assigned chapters will be posted on BlackBoard as free PDFs that can be read on the computer screen, but CANNOT BE PRINTED----so you may want to buy the paperback version, if you have the funds.]

Christensen, Clayton M. and Michael E. Raynor. *The Innovator's Solution*. Harvard Business School Press, 2003. [ISBN # 1-57851-852-0] Assigned reading: Chs. 1-3.

Other Required or Supplemental Readings:

Additional journal articles and chapters from monographs will be assigned on a weekly basis related to the topics that are to be discussed. Readings are listed under the date to which they apply, in the "Partial, Tentative Outline of Readings Assignments" that appears a few pages below.

ECON 4910 Course Requirements:

Course grades will depend on the grades received on class participation (30 points), a midterm (70 points), a final exam (110 points), a medium-length critical review (100 points) of a book related to entrepreneurship, and a seven minute presentation (20 points) based on the critical review. The midterm will consist of a combination of multiple choice questions and essay questions. Undergraduates will be graded on a more favorable scale than graduate students (see scale below).

Students will also have the opportunity to receive up to 10 points extra credit by giving a 5 minute presentation on one of the unassigned chapters from either the Baumol, Litan and Schramm *Good Capitalism, Bad Capitalism* book, or the Christensen and Raynor *The Innovator's Solution* book.

The critical review should be 8-10 pages of double-spaced, typewritten text (not including any footnotes and references). The review should summarize the substantive content of the book, stating the main themes or theses in each major section. The review should state the intended audience for the book, the clarity of the writing style, and the accuracy and usefulness of the information and analysis in the book. The student should do a thorough search for other published reviews of the book, and should summarize these reviews in her own critical review. A bibliography at the end of the review should include a full bibliographic citation to the book under review, as well as citations to any published reviews that are mentioned in the critical review. The correct form for the bibliography is provided later in this syllabus. Most of the guidelines in the syllabus section "Guidelines for Term Papers" also applies to the critical reviews. However, unlike the graduate term papers, the critical reviews do not need an abstract, do not require a literature search in Ingenta and other literature search databases, do not require a "thesis," and would normally have few, if any, endnotes.

The critical review should be submitted in paper form and also in digital form using the "Assignment" feature of BlackBoard. Please name the file with your last name. The review, with due attribution to you as the author, will be posted either to BlackBoard or to Diamond's web site (or both) for future students to read and study.

As an educational experiment, Diamond will attempt to record video clips of the critical reviews and also will attempt to load them either to Amazon, or to YouTube, to his web site, or to all three. (So try not to say anything in the reviews that you do not want posted to the web.) One goal of the experiment is to increase the benefits of your reviews by making them available to readers throughout the world. Another goal is to help you improve your future presentations by giving you the opportunity to see your presentation from the audience's point of view. As part of the posting process, students should provide Diamond with a star rating of their book from one to five stars (where the highest rating is a five).

BSAD 8916 and ECON 8916 Course Requirements:

Course grades will depend on the grades received on class participation (30 points), a midterm (70 points), a 12 minute class presentation (30 points), an extended research paper (130 points) on a thesis related to one of the topics covered on the reading list, and a final exam (70 points).

Students will also have the opportunity to receive up to 10 points extra credit by giving a 5 minute presentation on one of the unassigned chapters from either the Baumol, Litan and Schramm *Good Capitalism, Bad Capitalism* book, or the Christensen and Raynor *The Innovator's Solution* book.

Each graduate student will research a paper/presentation, on some general question of the economics of entrepreneurship.

As an educational experiment, Diamond may attempt to record video clips of the presentations and also attempt to load them either to Vimeo, or to YouTube, or to his web site, or to all three. (So try not to say anything in the presentations that you do not want posted to the web.) One goal of the experiment is to increase the benefits of your

presentations by making them available to scholars throughout the world. Another goal is to help you improve your future presentations by giving you the opportunity to see your presentation from the audience's point of view.

Papers/Presentations on a General Question of the Economics of Entrepreneurship

These papers would generally consist of collection, and effective organization, and analysis of evidence from the research literature on some useful or interesting issue of the economics of entrepreneurship relevant to the course. The student will prepare a term paper of 13-15 pages of double-spaced, typewritten text (not including the title page, the abstract, any endnotes and the bibliography). Students are encouraged to come up with topics that interest them, but are also encouraged to run the topics by the instructor for advice on the topic's tractability.

One type of topic would be to focus on what Schumpeter called "a case study in entrepreneurship" in which you would take a well-documented case of entrepreneurship, and try to answer questions such as: What was the innovation? What obstacles did the entrepreneur have to overcome? What motivated the entrepreneur? How important was luck in the innovation? How important was planning (strategic or otherwise)? Do we know anything about the entrepreneur's ethics or religion? Do we know anything about the entrepreneur's psychology? Do we know anything about the entrepreneur's experience or history that may have influenced their innovation (such as past successes, past failures, immigrant status, etc.)? How long had the entrepreneur lived in the location in which they produced their innovation? Did the entrepreneur come from a close-knit family, with strong mother or father? How many siblings did the entrepreneur have, and what was the entrepreneur's birth order? Before the entrepreneur's innovation, did the entrepreneur know or observe any other entrepreneurs? Are historians agreed on who is the primary entrepreneur responsible for the innovation? How much did the innovation contribute to economic growth and progress? Did the government play any role in encouraging or constraining the entrepreneur?

Some candidates for case studies might be:

Arkwright, Richard

Bessemer, Henry (McCraw says (p. 267) that Schump. says he was 'purest example of entrep.')

Brin, Sergey

Carnegie, Andrew

Dell, Michael

Edison, Thomas

Ellison, Larry

Ford, Henry

Fulton, Robert

Gates, Bill

Jobs, Steve
 Mellon, Andrew
 Morita, Akio
 Morgan, J.P.
 Page, Larry
 Rockefeller, John D.
 Venter, Craig
 Walton, Sam
 Watson, Thomas
 Whitney, Eli

An interesting, but probably more difficult, alternative approach would be to consider an innovation that had alternative competing entrepreneurs. For example, in *Steamboats Come True*, a case is made that John Fitch might be considered the inventor of the steamboat, instead of Robert Fulton (but which of them was the main innovator?). Or, more recently, who deserves how much credit for the personal computer innovation (candidates for important credit might include Steve Jobs, Steve Wozniak, Bill Gates, Paul Allen, Andy Grove).

A variety of other topics could also be the subject of term papers. For example:

1. It has been argued that Victorian England fell behind the U.S. in innovation and technological progress. Is this true? Were Victorian companies and entrepreneurs acting irrationally? (Read McCloskey here.)
2. To what extent, and for what reasons, does entrepreneurship tend to be geographically clustered?
3. Should we take seriously the studies that suggest that entrepreneurship is related to the levels of certain hormones in the system?
4. What is the evidence that certain cultural or religious values are more likely to encourage entrepreneurship than others?

In addition to the paper, near the end of the course each graduate student will give a 12 minute presentation on her topic, followed by about 3 minutes of questions from the class, and class discussion.

BlackBoard (aka MyUNO):

Much information concerning the course will be posted to the web pages of BlackBoard which has a URL of: <https://myuno.unomaha.edu/>. For example, PowerPoint slides that accompany class lectures will generally be posted to BlackBoard. Test grades will also be posted there. Announcements pertaining to the class will either appear on BlackBoard or be sent out via Notes email through BlackBoard.

The following table provides the grading scale in terms of percentages, and total points in the course:

	Graduate Students		Undergraduate Students	
Grades	Percentages	Points	Percentages	Points
A+	95-100	313-330	93-100	306-330
A	90-94	297-312	88-92	290-305
A-	85-89	280-296	83-87	273-289
B+	82-84	270-279	80-82	264-272
B	78-81	257-269	76-79	250-263
B-	75-77	247-256	73-75	240-249
C+	72-74	237-246	70-72	231-239
C	68-71	224-236	66-69	217-230
C-	65-67	214-223	63-65	207-216
D+	62-64	204-213	60-62	198-206
D	58-61	191-203	56-59	184-197
D-	55-57	181-190	53-55	174-183
F	54 or less	180 or less	52 or less	173 or less

Cheating:

Exams will be attentively monitored. The result of academic dishonesty will be a grade of F for the seminar.

Plagiarism:

Copying the work of others without attribution is a form of intellectual theft known as plagiarism, and is a major offense among scholars (and other civilized people).

Most clearly, any material that is directly quoted, should appear within quotation marks, if a sentence or less, or indicated with a 'block indent' if more than a sentence (which means that the whole quote is indented 5 spaces from the left edge of the text). **Failure to use either quotation marks, or block indent, with direct quotations will result in zero points**

for the assignment.

When a source is used in the text, internal references should be given in the text that consist of a parenthetical mention of the author's last name, the date of the publication and a specific page number (if appropriate). For each brief parenthetical reference, a complete bibliographic reference should be provided in the Bibliography.

“Honors Contract” for Undergraduate Honors Students:

Undergraduate students enrolled in the Honors Program, may receive honors credit for the course by completing an honors contract and fulfilling the terms of the contract. The contract will specify conditions identical to the graduate requirements for the course (viz., a presentation and a longer term paper).

Mandatory Statement on Disability Services:

“Reasonable accommodations are provided for students who are registered with Disability Services and make their requests sufficiently in advance. For more information, contact Disability Services (EAB 117, Phone: 554-2872, TTY: 554-3799) or go to the website: www.unomaha.edu/disability.”

Partial, Tentative Outline of Readings Assignments:

Some of the special value of a special topics seminar is that we can be especially responsive to the special and evolving interests of the students and professor; and can include the latest breaking research on the topics studied. As a result, the following schedule is very tentative and may be modified and expanded as the semester progresses. Readings with an asterisk (*) in front of them are recommended, but not required. Diamond will usually summarize and comment on them in a short lecture-format presentation. Students will be welcome to comment on them and raise questions on them, but there will not be the extended interactive discussion that we have for other readings. Material presented by Diamond in his summaries and comments, may be relevant to test questions, so note-taking is encouraged.

1. 8/24/10 **Description of Course**

2. 8/31/10 **The Theory of Entrepreneurship**

Casson, Mark. 2006. Entrepreneurship. In *The Concise Encyclopedia of Economics*, Liberty Fund, Inc., <http://www.econlib.org/library/Enc/Entrepreneurship.html>. (accessed Dec. 20, 2006).

Baumol, William J. "Entrepreneurship in Economic Theory." *The American Economic Review, Papers and Proceedings* 58, no. 2 (1968): 64-71.

Baumol, William J. "Entrepreneurship: Productive, Unproductive, and Destructive." *The Journal of Political Economy* 98, no. 5, Part 1 (Oct. 1990): 893-921.

3. 9/7/10 **Research Tools in Economics of Entrepreneurship; How to Write Clearly; How to Present Clearly**

McCloskey, Donald. "Economical Writing." *Economic Inquiry* 23 (April 1985): 187-222.

Tufte, Edward R. *The Visual Display of Quantitative Information*. Cheshire, Conn.: Graphics Press, 1983, pp. 13-15, 53-54, 93-96, 107-110.

Schumpeter, Joseph. *Capitalism, Socialism and Democracy*. Ch. 7, "The Process of Creative Destruction."

"Rothbard Praises Schumpeter Writing Style" paragraph.

4. 9/14/10 **Bhidé on Entrepreneurship**

Bhidé, Amar. *The Origin and Evolution of New Businesses*. Oxford and New York: Oxford University Press, 2003. **Part Assigned: Preface (pp. ix-xvii of print version; pp. 3-10 of Part 1 PDF version), Introduction (pp. 3-23 of print version; pp. 11-28 of Part 1 PDF version), and Conclusion (pp. 360-370 of print version; pp. 40-48 of Part 3 PDF version).**

5. 9/21/10 **Skill Versus Luck in Entrepreneurial Success**

Nye, John Vincent. "Lucky Fools and Cautious Businessmen: On Entrepreneurship and the Measurement of Entrepreneurial Failure." In *The Vital One: Essays in Honour of Jonathan R. T. Hughes*, edited by Joel Mokyr, Research in Economic History, supplement no. 6 Greenwich, Conn. and London: JAI Press, 1991, pp. 131-52.

Nicholas, Tom. "Clogs to Clogs in Three Generations? Explaining Entrepreneurial Performance in Britain since 1850." *The Journal of Economic History* 59, no. 3 (Sept. 1999): 688-713.

(Tentative term paper topics due.)

6. 9/28/10 **What Are the Motives and Characteristics of Entrepreneurs?**

Dyer, Jeffrey H., Hal B. Gregersen, and Clayton M. Christensen. "The Innovator's DNA." *Harvard Business Review* 87, no. 12 (Dec. 2009): 60-67.

Stanley and Danko. *The Millionaire Next Door*, **Ch. 1**

7. 10/5/10 **The Education of Entrepreneurs**

Lazear, Edward P. "Balanced Skills and Entrepreneurship." *American Economic Review* 94, no. 2 (2004): 208-11.

Baumol, William J. "Education for Innovation: Entrepreneurial Breakthroughs Versus Corporate Incremental Improvements." In *Innovation Policy and the Economy*, edited by Adam B. Jaffe, Josh Lerner and Scott Stern, 33-56. Cambridge, Mass.: MIT Press, 2005. [we may read the easier obtain pre-publication version: "Education for Innovation: Entrepreneurial Breakthroughs Vs. Corporate Incremental Improvements." In *NBER Working Papers*: National Bureau of Economic Research, Inc., 2004.]

8. 10/12/10 **Midterm exam.** (Exam will cover assignments through 10/5/10.).

9. 10/19/10 **UNO Fall Break---no class**

10. 10/26/10 **Christensen**

Christensen & Raynor. *The Innovator's Solution*, **Part assigned: Chs. 1 – 3, pp. 1-100 (a lot of these pages are notes or graphics, so the actual number of pages to be read is not as high as it first seems)**

(for graduate students: initial bibliography due, in format that will be used in the term paper.)

11. 11/2/10 **Why Growth Matters and Why Entrepreneurs Are Needed for Growth**

Baumol, William J., Robert E. Litan, and Carl J. Schramm. *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*. **Part assigned: Preface & Chs. 1-2 (pp. vii – 34).**

12. 11/9/10 **Government Policies That Encourage Entrepreneurship**

Fogel, Kathy, Ashton Hawk, Randall Morck, and Bernard Yeung. "Institutional Obstacles to Entrepreneurship." Ch. 20 in *Oxford Handbook of Entrepreneurship*, edited by Mark Casson, Bernard Yeung, Anuradha Basu, and Nigel Wadeson, 540-79. Oxford, UK: Oxford University Press, 2006, pp. 540-579.

13. 11/16/10 **International Focus on Institutions and Policies to Encourage Entrepreneurship**

Landes, David S. "French Entrepreneurship and Industrial Growth in the Nineteenth Century." *The Journal of Economic History* 9, no. 1 (May 1949): 45-61.

Bhidé, Amar. "The Venturesome Economy: How Innovation Sustains Prosperity in a More Connected World." *Journal of Applied Corporate Finance* 21, no. 1 (2009): 8-23.

14. 11/23/10 **Why Modern Mainstream Economics Neglects the Entrepreneur**

Baumol, William J. "Textbook Entrepreneurship: Comment on Johansson." *Econ Journal Watch*. 3, no. 1 (2006): 133-36.

Diamond, Arthur M., Jr. "Fixing Ideas: How Research is Constrained by Mandated Formalism." *Journal of Economic Methodology* 16, no. 2 (June 2009): 191-206.

15. 11/30/10 ***Student Presentations*; and Entrepreneurship and the Current Economic Crisis**

Bhidé, Amar. "Don't Believe the Stimulus Scaremongers." *Wall Street Journal*, Tues., February 17, 2009, A15.

Smick, David M. *The World Is Curved: Hidden Dangers to the Global Economy*. New York: Portfolio Hardcover, 2008; **prologue and Ch. 1 (provided as PDFs)**.

16. 12/7/10 ***Student Presentations*; summing up. Papers due.**

17. 12/14/10 **Final Exam.** (Exam is comprehensive and may cover anything covered in course.)

Presentations

Presentations should make use of PowerPoint slides. PowerPoint will not be taught during the class, but the instructor can guide the student toward resources, that will help the student to learn the basics of PowerPoint.

Guidelines for Term Papers

Late papers will be accepted, but will have 5% of the possible paper points deducted initially and an additional 1% deducted for each day the paper is late beyond the first day (so, e.g., if a paper is five days late, 9% of the possible paper points will be deducted). Late papers may result in a grade of I (incomplete) for the course on the initial grade report.

The paper should be written at a consistent level of difficulty. In most cases, the paper should be written to be understandable by a conscientious undergraduate economics major. That means you should assume that you are writing for someone who is intelligent, interested, short on time, and does not have a deep knowledge of science or the higher level technical details of economics.

The paper should have a title page including the title, your name, the name of the course, the course number and the date on which the paper is turned in. Following the title page, on a separate page should be a 100 word abstract. Neither the title page nor the abstract page counts toward the page limit of the paper. Pages in the body of the text (beginning with the Introduction) should be consecutively numbered. The whole paper should be double-spaced and should have inch and a half margins on the top, bottom, right and left. The font size should either be 10 point or 12 point in size. Any quotations longer than one sentence should be presented in "block indent" form (meaning that the whole quote is indented 5 spaces from the left edge of the text). Please do not put your paper in a special binder that would limit the space for my comments. Instead, staple or clip it together.

Use endnotes rather than footnotes. (But endnotes should be used only if really necessary.) When a source is used in the text, internal references should be given in the text that consist of a parenthetical mention of the author's last name, the date of the publication and a specific page number (if appropriate). For each brief parenthetical reference, a complete bibliographic reference should be provided in the Bibliography (that is not counted in the page limit). The ultimate arbiter for reference format is style "A" described in the latest edition of *The Chicago Manual of Style*.

Before you turn in your final draft, be sure to submit it to a spell-checking program (available with all major word-processing programs).

As you work on the text of your paper, be sure to periodically backup your latest draft onto a floppy disk, or other medium. Also be sure to keep a clean copy of your paper for your files---the copy you turn in to me will be marked-up in red ink.

In your introduction, you should describe your problem and your thesis. This might be a good place to mention the contents of any broadly relevant articles that you turned up in your Ingenta, EconLit and other literature searches. If there is no relevant material on Ingenta or EconLit for your topic, mention the absence of relevant material (and include in the appendix, a list of the keywords that you used to search under and the articles that resulted). (That is, it

would be very unusual to have no relevant articles appear, so if you claim that there are none, the burden of proof is on you.) Briefly (in a few sentences) summarize what you will be doing in the rest of the paper.

SOME SPECIFIC REQUIREMENTS:

- a. The paper should have inch and a half margins on the left hand side, the right hand side, the top and the bottom. (Ample margins make it easier for me to jot down comments.)
- b. The style for references should follow the sample form provided on p. 12 of this syllabus. It should be consistent and should provide enough information for the reader to track down a reference, if necessary. Perhaps the most widely used style format in economics is that found in: *The Chicago Manual of Style*, latest edition, The University of Chicago Press.) Of the two “basic” styles the *Manual* discusses, the one used in economics is a variant of what is called style “A.”
- c. Attempt to write as McCloskey suggests in "Economical Writing".
- d. Do not place your paper in a plastic cover or other binder.
- e. Make a photocopy of your paper before turning it in.
- f. The paper is due at the beginning of class on the last day of classes.

The term paper should be submitted in paper form and also in digital form using the "Assignment" feature of BlackBoard. Please name the file with your last name. The paper, with due attribution to you as the author, may be posted either to BlackBoard or to Diamond's web site (or both) for future students to read and study.

Sample Form for Bibliographic References

The following sample bibliography is intended to illustrate the mandated reference format for several different kinds of publications. The last entry is for a web resource, and gives an example where a lot of information is available---you may not always be able to provide quite as much detail, but should provide what you can. (The Jones entry is fictitious, and is adapted from: <http://www.lib.ohio-state.edu/guides/chicagogd.html>)

Ackermann, Robert John. *Data, Instruments and Theory*. Princeton, N.J.: Princeton University Press, 1985.

Acs, Zoltan J., David B. Audretsch and Maryann P. Feldman. "Real Effects of Academic Research: Comment." *The American Economic Review* 82, no. 1 (March 1992): 363-367.

Adams, James D. "Fundamental Stocks of Knowledge and Productivity Growth." *Journal of Political Economy* 98, no. 4 (August 1990): 673-702.

Alchian, Armen A. "Private Property and the Relative Cost of Tenure." In *Economic Forces at Work*. Indianapolis: Liberty Press, 1977 (essay originally published in 1958).

American Chemical Society. *Directory of Graduate Research 1989*. Washington, D.C.: American Chemical Society, 1989.

- Becker, William E., Jr. "Maintaining Faculty Vitality through Collective Bargaining." In Shirley M. Clark and Darrell R. Lewis, eds. *Faculty Vitality and Institutional Productivity: Critical Perspectives for Higher Education*. New York: Columbia University, Teachers College Press, 1985, pp. 198-223.
- Davis, Elizabeth. "Compensation Gains of Faculty Unions and the Unemployment Effect of Extending Unemployment Insurance Coverage." (PhD Dissertation, University of Michigan, 1988).
- Diamond, Arthur M., Jr. "Age and the Acceptance of Cliometrics." *The Journal of Economic History* 40, no. 4 (December 1980): 838-841.
- "The Career Consequences of Accepting a Scientific Mistake." working paper, 1992.
- Friedman, Milton. "An Open Letter for Grants." *Newsweek* (May 18, 1981): 99.
- Garfield, Eugene, (chairman). *Science Citation Index*. Philadelphia: Institute for Scientific Information, Inc., 1961-present.
- Jones, Sarah Jean. "The Country of Last Resort." [online]. New York: Columbia University, Academic Information Systems, Bartleby Library, posted Jan. 2, 1996 [cited October 12,

1998]. Available from World Wide Web:

(<http://www.columbia.edu/acis/.bartleby/jones>)

Lucas, Robert E., Jr. "Incentives for Ideas." *New York Times* (April 13, 1981): 23.

Moore, Rich. "Compaq Computer: COMPAQ Joins the Fortune 500 Faster Than Any Company in History." In Businesswire [database online]. San Francisco: Business Wire. 1986-[updated 9 April 1986: cited 10 March 1990]. Accession no. 000782: NO=BW420. 5 screens. Available from DIALOG Information Services, Inc., Palo Alto, Calif.

Important Dates:

October 13: midterm exam (tentative date).

October 19: class cancelled for fall break.

November 5: Last day to drop course with a grade of "W".

December 16: Final exam 6:00 - 8:40 PM.