****

**Master Syllabus**

**Course: ECO 445-Economics of Education**

**Cluster Requirement: 5A**

This University Studies Master Syllabus serves as a guide and standard for all instructors teaching an approved in the University Studies program. Individual instructors have full academic freedom in teaching their courses, but as a condition of course approval, agree to focus on the outcomes listed below, to cover the identified material, to use these or comparable assignments as part of the course work, and to make available the agreed-upon artifacts for assessment of learning outcomes.

**Course Overview:** This course is a seminar that deals with the economic issues surrounding education. Topics to be discussed include but are not limited to: educational production and analyzing the various inputs in the production of education, investment in education, both private and public, and the impact of key educational reforms. Focus will be placed on analyzing current academic research in all of these topics.

**Learning Outcomes:**

Course-Specific Learning Outcomes: Students will have the opportunity to

1. Apply theoretical and empirical methods of economics to education policy and educational decisions. Economics is a powerful framework for thinking about education policy. Economics focuses us on the incentives created by a policy, allowing us to predict its intended and unintended consequences.
2. Read, interpret and synthesize findings of modern empirical research in the economics of education and describe common econometric interpretations to education research
3. Distinguish good empirical research from bad. There are thousands of empirical education studies. This course helps you separate the good from the bad by teaching you to read closely and critically. We will discuss the key challenges in education research and learn the best-practice methods that overcome them.
4. Discuss and demonstrate how economic theory and empirical methods are applied to questions of human capital accumulation, economic growth and development, public investment in education, educational production, school choice, accountability, and the labor market for teachers
5. Succinctly communicate meaning to readers and listeners without errors in spelling, grammar, and punctuation. THIS IS A READING AND WRITING INTENSIVE COURSE.

University Studies Learning Outcomes:

Upon completion of the capstone study, students will be able to:

1. Synthesize the knowledge and skills gained within major courses, independently complete a research-based project or creative work and integrate the results of both in an open-ended project or experience (projects within the major are encouraged).

2. Integrate knowledge and principles from the field of study with those of the broader University Studies curriculum.

3. Demonstrate advanced information literacy skills by selecting, evaluating, integrating and documenting information gathered from multiple sources into discipline-specific writing.

4. Communicate effectively, both orally and in writing, the results of the project or experience.

**Examples of Texts and/or Assigned Readings:**

* Howell, W. G., M.R. West and P.E. Peterson (2007) “What Americans Think about Their Schools”, *Education Next* 7(4).
* Eric Hanushek, Dean Jamison, Eliot Jamison, and Ludger Woessman. “Education and Economic Growth.” *Education Next*. Spring, 2008. Vol. 8 No. 2., pp. 62-70.
* Borjas, George J. 2013. *Labor economics*. Chapter 6-Human Capital, New York: McGraw-Hill.
* Gujarati, Damodar N. 2010. *Essentials of Econometrics*. 4th ed., Chapters 2-4, 6 and 11, New York: McGraw-Hill/Irwin.
* Eric Hanushek and Dennis Kimko. 2000. "Schooling, Labor-Force Quality, and the Growth of Nations." *American Economic Review*. Vol. 90, No. 5 (December), pp. 1184-1208.
* Goldin, C. (2003) “The Human Capital Century,” *Education Next*, 3(1).
* Ashenfelter, O. and A. Krueger (1994) “Estimates of the Economic Returns to Schooling from a New Sample of Twins,” *American Economic Review*, 84(5): 1157-73.
* Derek Neal. 1996. "The Role of Premarket Factors in Black-White Wage Differences." *Journal of Political Economy*. 104, 5 (October), pp. 869-895.
* Altonji, J.G. (1995) “The Effects of High School Curriculum on Education and Labor Market Outcomes.” *The Journal of Human Resources*, Vol. 30, No. 3, pp. 409-438
* Derek Neal (2002). “How Vouchers Could Change the Market for Education.” *Journal of Economic Perspectives*, 16(4), pp. 25-44.
* Clotfelter, C., H.F. Ladd and J. Vigdor (2004) "Do School Accountability Systems Make It More Difficult for Low Performing Schools to Attract and Retain High Quality Teachers?" *Journal of Policy Analysis and Management* 23(2): 251-271.

**Example Assignments:**

* **Assignment 1**-Research Reviews: Approximately 4 times during the semester, students will be asked to write research reviews of scholarly articles. These will be due online (using SafeAssign) and will be assigned at least 1 week in advance. The papers are to be typed and no more than 3 pages double-spaced. The first half should be a concise summary of the research described in the reading. It should answer the following types of questions:
  + What is the specific research question that is being addressed?
  + Why is this question important or interesting to policymaker? Is there an underlying theory that motivates this empirical study? If so, please explain.
  + How does the question raised by this paper relate to other ideas and concepts learned in classes outside of economics?
  + Can the research question be framed as a hypothesis? If so, what is it?
  + What kind of data does the author(s) use? What is its source?
  + If the paper uses a regression analysis (most do), what is the dependent variable (that is, what variable are they trying to explain) and what is the key explanatory variable(s)?
  + Is the data non-experimental in nature, or the product of a randomized experiment?
  + What is the paper’s key empirical finding?
  + Is there anything that the authors do to convince you that they have found a causal relationship between their dependent variable and explanatory variable of interest?
  + Is there anything you find unconvincing about the paper? Can you think of an alternative explanation for the key empirical finding?
  + Are there any policy implications from the results of the paper?
  + The above questions are also intended to help guide your reading of some of the more challenging articles in the syllabus. Though you will only be graded on the assigned reaction papers, you are encouraged to answer these questions for the other assigned readings, as they will provide a useful study guide for the exam and will help enable you to contribute to class discussions.
* **Research Review Rubric**

|  | **Levels of Achievement** | | | |
| --- | --- | --- | --- | --- |
| **Criteria** | **Exemplary** | **Meet Expectations** | **Needs Improvement** | **Unacceptable** |
| **Question**  Describe the question that the article addresses | **3 Points**  Explains the question and connects it to current economic and social issues. | **2 Points**  Explains the question and gives some background or current status | **1 Points**  Briefly mentions the question but does not explain the value of the question or its ramifications | **0 Points**  Does not describe the question addressed in the article |
| **Research Methodology**  Explain how the research methodology provides insight into the problem | **3 Points**  Explains the type of research methodology used and provides a critical evaluation of the research. | **2 Points**  Explains the type of research methodology used and provides a critical evaluation of the research | **1 Points**  Mentions the type of research used to study the problem | **0 Points**  Does not mention the type of research methodology used |
| **Findings/Conclusions**  The research should provide answers to educational questions and suggest further questions for study | **3 Points**  Explains the findings, connects them to current issues and expands them to suggest further research | **2 Points**  Explains the findings and connects them to current issues in education | **1 Points**  Mentions the findings but does not connect them to the current issues in education | **0 Points**  Does not mention the findings of the research |
| **Written Product**  The written summary should briefly summarize the article including a statement of the problem, a description of the research methodology, a review of the findings, and suggestions for further research. | **3 Points**  The written product is complete, clear, insightful, and articulate with no errors in spelling, grammar and punctuation | **2 Points**  The written product is complete and has no errors in spelling grammar and punctuation | **1 Points**  The written product contains each of the components but it contains errors in spelling, grammar and punctuation | **0 Points**  The written product does not include each of the components, or contains multiple errors in spelling, grammar and punctuation |

* **Assignment 2: Capstone Project**

Overview

Students will write a paper (12-14 pages, double-spaced, no more than 5000 words) that analyzes a topic in the economics of education. These deadlines must be met to receive full credit for the paper:

Deadline

Proposal due (5 points) [insert deadline]

Meet with instructor to discuss proposal (5 points) [insert deadline]

Annotated bibliography due (10 points) [insert deadline]

Draft due (20 points) [insert deadline]

Presentation (20 points) [insert deadline]

Paper due (40 points) [insert deadline]

The paper should analyze a piece of current educational policy using past research and economic theory. The paper should identify the relevant costs and benefits, determine what prior research has concluded about the policy and reach an educated, well-argued decision about whether the policy should be (or should have been) enacted. The policy can be local, state-wide or federal, and it can pertain to primary, secondary, or postsecondary education. THE MOST IMPORTANT ASPECT OF THE TOPIC IS THAT YOU FIND IT INTERESTING. In order to successfully complete this assignment, you will need to go well beyond the sources listed on the syllabus.

When conducting your research, you may use popular media (online news articles, etc…), since they are more likely to report on current educational policies in question, but you must use academic journal articles as well. Your final paper should cite no less than eight academic journal articles.

Each student will be required to present their paper in a 20 minute presentation in the last two weeks of class. The presentation should be well-organized, polished, and include PowerPoint slides.

Components of the Paper

1. Paper Proposal: This should be no more than one page and should outline what policy you are planning to research, how you plan to research this topic, and why we should care about the topic. In your proposal, please mention how this topic relates to concepts you learned in your non-economics classes
2. Meeting with the Instructor: This is pretty straightforward. Each student will meet with me to discuss the topic (plan on a 15-20 minute meeting or so).
3. Annotated Bibliography: This is a major step in the writing of any paper. The annotated bibliography contains a list of references related to your topic. For each reference include a one paragraph description of what is contained in the reference. Please have no fewer than eight academic journal articles by this point.
4. Draft due: A rough draft of your paper is due by this date.
5. Final paper due: Your final paper is due on the last day of class.

Paper Organization

1. Each paper should be organized as follows:
2. Title page with abstract--short (about 100-150 word summary of the paper, why it is important and its results)
3. Introduction--a few pages that motivate the paper, provide a general introduction to the topic, outline the rest of the paper. The introduction is usually 2-3 pages.
4. Main analysis--can be organized into a few different sections. This is the heart of the paper.
5. Conclusion--a summary statement of the main findings of your paper. This should be about .5 - 1.5 pages.
6. References
7. Any tables or figures used (optional)

Please use page numbers on the center of the bottom on every page. Use footnotes and not endnotes. Footnote identifiers should go outside of punctuation.

I strongly encourage you to use tables and figures to provide more persuasive evidence of your argument. However, when you use them be sure to integrate them into the text and describe the main point or two of each table. Tables and figures are not stand alone items, but need to be explained.

**Citations**

You should use the standard social science citation form, which you can see in the journal articles we read in class.

For example, "Bush (1999) argues ...." or "Many studies (Jones 1998, Marshal 1999, Wilson 2000) conclude that high-stakes testing may have adverse impacts"

You should cite things that are not general knowledge. For example, there would be no reason to cite like "because most schools are on break in the summer, children are looking for ways to fill their time."

*References Formats*

Unpublished Paper

Richard Freeman. 2005. “Does Globalization of Scientific/Engineering Workforce Threaten U.S. Economic Leadership?” NBER Working Paper 11457 (June).

Published Single-Author Paper

Caroline Hoxby. 1996. "Are Efficiency and Equity in School Finance Substitutes or Complements?" *Journal of Economic Perspectives*. Vol. 10 No. 4 (Autumn), pp. 51-72.

Published Multiple-author paper

Figlio, David and Maurice Lucas. 2004. “What’s in a Grade? School Report Cards and Housing Prices.” The *American Economic Review*, Vol. 94, No. 3 (June), pp. 591-604

Book

Eric Hanushek and Alfred Lindseth. 2009. *Schoolhouses, Courthouses, and Statehouses*. Princeton, NJ: Princeton University Press.

Website

Dillon, Sam and Jennifer Medina. “New York Is Among the States to Win Education Grants.” The New York Times, http://www.nytimes.com/2010/08/25/education/25schools.html. Accessed August 24, 2010.

**Rubrics for Term Paper Assignment Components-Annotated Bibliography**

You must use a minimum of 8 approved sources. Approved sources include academic journal articles, government publications, business periodicals, and books. You may use internet sources if they are from academic journals, national newspapers (Wall Street Journal, Washington Post, etc.), business periodicals (Business Week, The Economist, etc.), or government agencies (Census Bureau, Bureau of Labor Statistics, GAO, etc.) Wikipedia and other online encyclopedias and all private websites are NOT approved sources and should not be included. If you have a question about the suitability of a source, please ask.

• An annotated bibliography is a list of sources with a brief summary of the important information, relevance, and quality of the source. For an example and additional information, please consult [this source](http://www.writing.utoronto.ca/advice/specific-types-of-writing/annotated-bibliography%20) or [this source](http://www.library.cornell.edu/olinuris/ref/research/skill28.htm).

• Chicago style, MLA, and APA formats are acceptable. For guidance, please see [www.lib.umassd.edu/get/bibstyleguides.html](http://www.lib.umassd.edu/get/bibstyleguides.html)

|  | **Levels of Achievement** | | | |
| --- | --- | --- | --- | --- |
| **Criteria** | **Exemplary** | **Meet Expectations** | **Needs Improvement** | **Unacceptable** |
| **Annotated Bibliography** | **10 Points**  Submitted by due date and includes references to 8 or more approved (as defined in the assignment above) sources. Each source is followed by a clear, thorough 2-3 sentence description of the information provided by the source that will be used in the paper. | **7 Points**  Submitted by due date and includes references to 8 or more approved (as defined in the assignment above) sources. Each source is followed by a brief description of the source but descriptions are not clear and thorough and/or it is not clear what contribution the source will make to the paper. | **3 Points**  Submitted by due date and includes references to fewer than 8 approved (as defined in the assignment above) sources and/or descriptions are unclear or missing. | **0 Points**  Annotated bibliography was not submitted by the due date or it did not reference any approved sources. |

**Rubrics for Term Paper Assignment Components-Rough Draft**

|  | **Levels of Achievement** | | | |
| --- | --- | --- | --- | --- |
| **Criteria** | **Exemplary** | **Meet Expectations** | **Needs Improvement** | **Unacceptable** |
| **Progress** | **4 Points**  Draft contains an introduction, body, and conclusion in a minimum of 5 pages. | **3 Points**  Draft contains an introduction, body, and conclusion in a minimum of 3 pages. | **2 Points**  Draft is fewer than 3 pages in length and/or it does not contain an introduction, body, and conclusion. | **0 Points**  Draft was not submitted. |
| **Analysis** | **4 Points**  Analysis clearly and thoroughly articulates the policy, describing both its history and its implications. | **3 Points**  Analysis only partially articulates the policy, describing both its history and its implications. | **2 Points**  Analysis articulates the policy, but describes neither its history nor its implications. | **0 Points**  Does not identify a policy. |
| **Integration and Synthesis** | **4 Points**  Provides evidence of integration and synthesis of knowledge from economics courses and independent research through correct use of economic terms, accurate interpretations of findings of other researchers, and insightful conclusions. | **3 Points**  Provides some evidence of integration and synthesis of knowledge from economics courses and/or contains fewer than three of the following: incorrect uses of economic terms, inaccurate interpretations of findings of other researchers, invalid conclusions. | **2 Points**  Provides little evidence of integration and synthesis of knowledge from economics courses and independent research and/or contains incorrect uses of economic terms and/or inaccurate interpretations of findings of other researchers. | **0 Points**  Provides no evidence of integration and synthesis of knowledge from economics courses and/or independent research. |
| **Writing Style and Format** | **4 Points**  Draft uses formal, professional language, written in third- person, errors in spelling, grammar, and punctuation are rare. | **3 Points**  Draft contains fewer than 5 errors in spelling, grammar, and punctuation, and style flaws are rare. | **2 Points**  Style is inappropriate and/or draft contains more than 5 errors in spelling, grammar, and punctuation. | **0 Points**  Draft was not submitted by due date or writing is incoherent. |
| **Sources and Documentation** | **4 Points**  Draft references a minimum of 8 approved sources using correct parenthetical documentation and a formal bibliography. | **3 Points**  Draft references a minimum of 8 approved sources but requires some corrections in documentation and/or bibliography. | **2 Points**  Draft references fewer than 8 approved sources and/or requires major corrections in documentation and/or bibliography. | **0 Points**  Draft does not include sources and/or documentation. |

**Rubrics for Term Paper Assignment Components-Final Draft & Presentation**

This paper and presentation should demonstrate the student's mastery of the following program-level learning objectives:

* Apply general concepts learned from principles of economics and a specific field, or multiple fields, of economics.
* Compare and evaluate the costs and benefits of government policy, applying economic decision-making tools to analyze the effects on social welfare.
* Communicate, in writing and orally, fundamental economic theories, concepts, analytical methods, and policy choices.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Exceptional** | **Meets Expectations** | **Needs Improvement** | **Unacceptable** |
| **Application of Economic Concepts**  (15 possible points) | All economic terms are used correctly. General economic concepts (marginal benefit/marginal cost, externalities, demand and supply, opportunity cost, etc.) are accurately and thoroughly applied to a specific field or fields of economics. Examples and applications are insightful and thoroughly explained.  (15 points) | Most economic terms are used correctly. General economic concepts are accurately applied. Explanations of examples are correct but may lack some depth and insight.  (12 points) | Only some economic terms are used correctly. General economic concepts are not accurately applied to a field of economics.  (8 points) | Economic terms are not used correctly. General economic concepts are not applied to a field of economics.  (0 points) |
| **Comparison and Evaluation of Costs and Benefits of Government Policy**  (15 possible points) | Completely identifies, compares and evaluates the costs and benefits of government policy. Evaluation is thorough and based on thoughtful application of economic principles.  (15 points) | Identifies and compares the major costs and benefits of government policy. Analysis may have overlooked some relevant costs or benefits, and/or evaluative statements may lack some consistency.  (12 points) | Identifies only the obvious costs and benefits of government policy. Analysis includes very little comparison and evaluation of the relevant costs and benefits, and/or the analysis is incorrect or unclear.  (8 points) | Does not identify, compare or evaluate the costs and benefits of government policy.  (0 points) |
| **Criteria** | **Exceptional** | **Meets Expectations** | **Needs Improvement** | **Unacceptable** |
| **Written Communication - Writing Quality**  (10 possible points) | Paper uses professional language, and errors in spelling, grammar, and punctuation are rare or non-existent. Writing is well-organized and articulate. Source documentation is both explained and supportive of the arguments made in the paper.  (10 points) | Paper contains fewer than 5 errors in spelling, grammar, and punctuation, and style flaws are rare. Writing is coherent. Source documentation is supportive of the arguments made in the paper.  (6 points) | Style is inappropriate and/or final version contains more than 5 errors in spelling, grammar, and punctuation. Writing is confusing, disorganized, and/or source documentation is not supportive of the arguments made in the paper.  (4 points) | Most or all of the writing is incoherent or unclear, or paper was incomplete.  (0 points) |
| **Oral Communication - Delivery**  (10 possible points) | Maintained good eye contact throughout presentation with many audience members. Presented information from memory or with minimal assistance from notes. Clearly articulated thoughts without distracting words, pauses, or body language.  (10 points) | Made periodic eye contact during presentation, though may have returned eyes to notes or floor frequently. Relied heavily on notes, but did not directly read from notes or slides. Most thoughts were clearly articulated and distracting words or body language was minimal.  (6 points) | Did not make eye contact throughout presentation. Read from notes or slides. Most thoughts were not clearly articulated and/or words or body language was a major distraction.  (4 point) | Presentation was incoherent or was not completed.  (0 points) |
| **Oral Communication – Visual Aids**  (10 possible points) | PowerPoint or other visual aids complemented presentation by showing key talking points. Any graphs or tables were well-defined and clearly visible to audience.  (10 points) | PowerPoint or other visual aids presented key talking points, but may have included too much detail. Any graphs or tables were clearly visible to audience.  (6 points) | PowerPoint or other visual aids included sentences or paragraphs rather than key talking points, and/or any graphs or tables were not clearly visible to audience.  (4 point) | No visual aids were used or visual aids were incomprehensible.  (0 points) |

**Sample Course Outline:**

**Unit I: Introduction/Course Tools**

1. Introduction to the course

*Required Reading*

* Howell, W. G., M.R. West and P.E. Peterson (2007) “What Americans Think about Their Schools”, *Education Next* 7(4).
* *The External Benefits of Education.* W.W. McMahon. In: Penelope Peterson, Eva Baker, Barry McGaw (Editors), International Encyclopedia of Education. Volume 2, pp. 342-346. Oxford: Elsevier, 2010.

1. Course Tools: A Crash Course in Econometrics

*Required Reading*

* Gujarati, Damodar N. 2010. *Essentials of Econometrics*. 4th ed., Chapters 2-4, 6 and 11, New York: McGraw-Hill/Irwin.

1. The Importance of Education (at the macro level)

*Required Reading*

* Eric Hanushek and Dennis Kimko. 2000. "Schooling, Labor-Force Quality, and the Growth of Nations." *American Economic Review*. Vol. 90, No. 5 (December), pp. 1184-1208.
* Eric Hanushek, Dean Jamison, Eliot Jamison, and Ludger Woessman. “Education and Economic Growth.” *Education Next*. Spring, 2008. Vol. 8 No. 2., pp. 62-70.

1. Human Capital Theory and the Signaling Model

*Required Reading*

* Borjas, George J. 2013. *Labor economics*. Chapter 6, New York: McGraw-Hill.
* *Human Capital.* Eric Eide and Mark H. Showalter. In: Penelope Peterson, Eva Baker, Barry McGaw, (Editors), International Encyclopedia of Education. Volume 2, pp. 342-346. Oxford: Elsevier, 2010.
* *Signaling in the Labor Market.* M.E. Page. In: Penelope Peterson, Eva Baker, Barry McGaw, (Editors), International Encyclopedia of Education. Volume 2, pp. 342-346. Oxford: Elsevier, 2010.
* Andrew Weiss (1995). “Human Capital vs. Signalling Explanations of Wages*.” Journal of Economic Perspectives.* 9(4, Fall), pp 133-154.

*Additional Reading:*

* F. Hayek. 1946. "The Use of Knowledge in Society." American Economic Review
* **John Bishop. 1989. "Is the Test Score Decline Responsible for the Productivity Growth Decline?" American Economic Review. 79 (March), pp. 178-197.**
* Richard Freeman. 2005 “Does Globalization of Scientific/Engineering Workforce Threaten U.S. Economic Leadership?” NBER Working Paper 11457 (June).

**Unit II: Investment in Education**

1. Private Investment in Education—Theory

*Required Reading*

* Borjas, George J. 2013. *Labor economics*. Chapter 7, New York: McGraw-Hill.
* Goldin, C. (2003) “The Human Capital Century,” *Education Next*, 3(1).

1. Private Investment in Education—Empirical Evidence (Natural Experiments)

*Required Reading*

* Angrist, J.D and A.B. Krueger (1991) “Does Compulsory School Attendance Affect Schooling and Earnings?” *The Quarterly Journal of Economics*, 106(4): 979-1014.
* Ashenfelter, O. and A. Krueger (1994) “Estimates of the Economic Returns to Schooling from a New Sample of Twins,” *American Economic Review*, 84(5): 1157-73.

1. Public Investment in Education

*Required Reading*

* Taylor, L.L., 2006. “Government's Role in Primary and Secondary Education” (1999) Federal Reserve Bank of Dallas Economic Review.

1. Financing Education-Public finance in a federal system

*Required Reading*

* Black, S. (1999) “Do Better Schools Matter? Parental Valuation of Elementary Education,” *Quarterly Journal of Economics*, 114(2): 577-599.
* Card, D. and A. Payne (2002) "School Finance Reform, the Distribution of School Spending, and the Distribution of Student Test Scores," *Journal of Public Economics*, 83(2002): 49-82.

Hoxby, Caroline (2001). “All School Finance Equalizations Are Not Created Equal,” *Quarterly Journal of Economics* 116:4, pp. 1189-1231.

*Additional Reading*

* Morley K. Gunderson and Philip Oreopoulos, "Returns to Education in Developed Countries", in International Encyclopedia of Education, 3rd edition (edited by E. Barker, M. McGaw and P. Peterson), Elsevier Publishers,
* Steven V. Cameron & James Heckman. 1993. "The Non-Equivalence of High School Equivalents." *Journal of Labor Economics*. Part 1. Vol. 11 No. 1, pp. 1-47.
* Murnane, Richard, John Willett, and Frank Levy. 1995. "The Growing Importance of Cognitive Skills in Wage Determination." *Review of Economics and Statistics*. 74, 2
* Derek Neal. 1996. "The Role of Premarket Factors in Black-White Wage Differences." *Journal of Political Economy*. 104, 5 (October), pp. 869-895.
* Pedro Carneiro and James Heckman. 2003. “Human Capital Policy” Cambridge, MA: NBER. Working Paper 9495.

**Unit III: Educational Production**

1. Educational Production

*Required Reading*

* Lazear, Edward (2001). “Educational Production.” *Quarterly Journal of Economics,* 116:3, pp. 777-803.
* Hanushek, E. A. (1986) “The Economics of Schooling: Production and Efficiency in Public Schools,” *Journal of Economic Literature*, 24(3):1147-77.
* Krueger, A. (1998) “Reassessing the View that American Schools Are Broken,” *Federal Reserve Bank of New York Economic Policy Review*, 4(1).

1. Inputs-Class Size

*Required Reading*

* *The Economics of Class Size*, Diane Schanzenbach In: Penelope Peterson, Eva Baker, Barry McGaw, (Editors), International Encyclopedia of Education. Volume 2, pp. 183-189. Oxford: Elsevier, 2010.
* Krueger, Alan (1999). “Experimental Estimates of Education Production Functions.” *Quarterly Journal of Economics* 114:2, pp. 497-532.
* Dustmann, C., Rajah, N., van Soest, A., 2003. “Class Size, Education and Wages.” *The Economic Journal*, Vol 113, No. 185, pp. F99-F120

*Additional Reading*

* Ritter, Gary W. and Boruch, Robert F. (1999). “The Political and Institutional Origins of a Randomized Controlled Trial on Elementary School Class Size: Tennessee’s Project STAR.” *Educational Evaluation and Policy Analysis* 21:2, pp. 111-125.
* Boozer, M. and Rouse, C. (2001) "Intraschool Variation in Class Size: Patterns and Implications" *Journal of Urban Economics*, 50:163-189.
* Hanushek, Eric (1997).“Assessing the Effects of School Resources on Student Performance: An Update.” *Educational Evaluation and Policy Analysis* 19:2, pp. 141-164.
* Krueger, Alan (2003). “Economic Considerations and Class Size.” *The Economic* *Journal*, 113:485, pp. 34-63.
* Hattie, J. (2005) “The paradox of reducing class size and improving learning outcomes,” *International Journal of Educational Research*, 43(6): 387-425.

1. Inputs-Teachers

*Required Reading*

* Goldhaber, D. and D. Brewer (1997) “Why Don’t Schools and Teachers Seem to Matter? Assessing the Impact of Unobservables in Educational Productivity.” *Journal of Human Resources*, 32(3): 505-523.
* Rivkin, Steven, Eric Hanushek, and John Kain. 2004. “Teachers, Schools, and Academic Achievement.” *Econometrica*. Vol. 73 No. 2 (March), pp. 417-458.
* Jesse Rothstein, "Teacher Quality in Educational Production" *Quarterly Journal of Economics* (Feb. 2010), 175-214
* Corcoran, S.; W. Evans, and R. Schwab (2004). “Changing Labor Market Opportunities for Women and the Quality of Teachers, 1957-2000.” *American Economic Review* 94(2), pp. 230-35.

*Additional Reading*

* Goldhaber, D. (2002) “The Mystery of Good Teaching.” *Education Next*, 2 (Spring): 50-55.
* Hoxby, C.M. (1996) "How Teachers' Unions Affect Education Production," *The Quarterly Journal of Economics*, 111(3): 671-718.
* Aaronson, Daniel, Lisa Barrow, and William Sander. 2003. "Teachers and Student Achievement in the Chicago Public High Schools" Working Paper. Research Department. Federal Reserve Bank of Chicago.
* Angrist, Joshua and Jonathan Guryan (2004). “Teacher Testing, Teacher Education, and Teacher Characteristics.” *American Economic Review* 94(2), pp. 241-246.
* Hoxby, C. M. and A. Leigh (2004) "Pulled Away or Pushed Out? Explaining the Decline of Teacher Aptitude in the United States," *American Economic Review*, 94(2): 236-240.
* Brian A. Jacob and Lars Lefgren. 2005. "Principals as Agents: Subjective Performance Measurement in Education." NBER Working Paper 11463. <http://www.nber.org/papers/w11463>
* Thomas Kane, Jonah Rockoff, and Douglas Staiger. “What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City.” Harvard Graduate School of Education (March, 2006), p. 40.
* Angrist, Joshua and Victor Lavy. “Does Teacher Training Affect Student Achievement? Evidence from Matched Comparisons in Jerusalem Public Schools.” *Journal of Labor Economics* 19 (2000), pp. 343-369
* Cory Koedel and Julian Betts. “Re-Examining the Role of Teacher Quality In the Educational Production Function.” University of Missouri Economic Department Working Paper Series

1. Peers & Achievement Gaps

*Required Reading*

* Fryer, R. G. and S. Levitt (2004) "Understanding the black-white test score gap in the first two years of school," *The Review of Economics and Statistics*, 86(2): 447-464.
* Hattie, J., (2002) “Classroom composition and peer effects,” International Journal of Educational Research, 37(5): 449-481.
* Additional Reading
* Fryer, R. G. (2006) "Acting White," Education Next, 1 (Winter): 53-59.
* Bishop, J. H. and M. M. Bishop “An Economic Theory of Academic Engagement Norms: The Struggle for Popularity and Normative Hegemony in Secondary Schools”, working paper.

**Unit IV: Educational Choices of Students and Parents**

*Required Reading*

* Altonji, J.G. (1995) “The Effects of High School Curriculum on Education and Labor Market Outcomes.” *The Journal of Human Resources*, Vol. 30, No. 3, pp. 409-438
* Brewer D.J., Eide, E.R., Ehrenberg, R.G., 1999 “Does It Pay to Attend an Elite Private College? Cross-Cohort Evidence on the Effects of College Type on Earnings.” *The Journal of Human Resources*, Vol. 34, No. 1 (Winter, 1999), pp. 104-123
* Neal, Derek, (1997). “The Effects of Catholic Secondary Schooling on Educational Achievement.” *Journal of Labor Economics,* 15(1-January) pp 98-123.

*Additional Reading*

* S. Dale and A. Krueger. 2002. “Estimating the Payoff to Attending a More Selective College.” Quarterly Journal of Economics. Vol 117 No. 4 (Nov), pp. 1491-1527.
* T. Kane and C. Rouse. 1999. “The Community College: Education Students at the College.” Quarterly Journal of Economics. Vol 117 No. 4 (Nov), pp. 1491-1527.Margin College and Work.” *Journal of Economic Perspectives*. Vol 13 No. 1 (Winter), pp. 63-84.

**Unit V: Educational Reforms**

1. School Choice

*Required Reading*

* Derek Neal (2002). “How Vouchers Could Change the Market for Education.” *Journal of Economic Perspectives*, 16(4), pp. 25-44.
* Helen F. Ladd (2002). “School Vouchers: A Critical View.” *Journal of Economic Perspectives*, 16(4), pp. 3-24.
* *The Efficacy of Educational Vouchers.* R. Zimmer and E. Bettinger. In: Penelope Peterson, Eva Baker, Barry McGaw, (Editors), International Encyclopedia of Education. Volume 2, pp. 342-346. Oxford: Elsevier, 2010.

*Additional Reading*

* Mayer, Daniel, Paul Peterson, David Myers, Christina Clark Tuttle and William Howell (2002). “School Choice in New York City After Three Years: An Evaluation of the School Choice Scholarships Program.” Mathematica Policy Research report (113 pp).
* Krueger, Alan and Pei Zhu (2004). “Another Look at the New York City School Voucher Experiment.” *American Behavioral Scientist.* 47:5, pp. 658-98.
* C. Hoxby and J. Rockoff "Findings from the City of Big Shoulders " *Education Next* (2005)
* C. Hoxby. “Does Competition Among Public Schools Benefit Students and Taxpayers?” *American Economic Review*. Vol. 90 No. 5 (Dec. 2000), pp. 1209-1238
* J. Angrist, et. al. 2002. "Vouchers for Private Schooling in Columbia: Evidence from a Randomized Natural Experiment." *American Economic Review* 92 (December), pp. 1535-58
* C. Hoxby and S. Murarka. 2008. "New York City Charter Schools: How Well Are They Teaching Their Students?" *Education Next*. Vol 8 No. 3 (Summer), pp. 54-61.
* C. Hoxby and S. Murarka. 2009. "Charter Schools in New York City: Who Enrolls and How They Affect Student Achievement." Cambridge, MA: NBER WP14852.
* Patrick Wolf. 2009. "Lost Opportunities" *Education Next* Vol 9 No. 1 (Fall)
* Will Dobbie and Roland Fryer Jr (2009) "Are QualitySchools Enough to Close the Achievement Gap? Evidence from a Social Experiment in Harlem." NBER Working Paper 15473

1. Accountability

*Required Reading*

* Derek Neal (2010). “Aiming for Efficiency Rather than Proficiency.” *Journal of Economic Perspectives.* 24(3-Summer), pp. 119-132
* Jacob, B. (2004) “Accountability, Incentives and Behavior: The Impact of High-Stakes Testing in the Chicago Public Schools.”

*Additional Reading*

* Ladd, H. F. (2004) “Lessons from North Carolina’s School-Based Accountability System”
* Clotfelter, C., H.F. Ladd and J. Vigdor (2004) "Do School Accountability Systems Make It More Difficult for Low Performing Schools to Attract and Retain High Quality Teachers?" *Journal of Policy Analysis and Management* 23(2): 251-271.
* Jacob, Brian and Steven Levitt (2003). “Rotten Apples: An Investigation of the Prevalence and Predictors of Teacher Cheating” *Quarterly Journal of Economics* 118:3, pp. 843-878.

1. Mechanisms to Encourage Better Teaching

*Required Reading*

* Borjas, George J. 2013. Labor economics., Chapter 11, New York: McGraw-Hill
* Victor Lavy (2009). “Performance Pay and Teachers’ Effort, Productivity and Grading Ethics.” The American Economic Review. 99(5-Dec. 2009), pp 1979-2011.

*Additional Reading*

* Barlevy, G., and Neal, D. (2009). “Pay for Percentile” Federal Reserve Bank of Chicago Working Paper
* Neal, D., and Schazenbach, D.W., (2008) “Left Behind By Design: Proficiency Counts and Test-Based Accountability” NBER Working Paper

**ECO 445: Economics of Education Outcomes and Artifacts Map for 5A**

The outcomes are bolded and the artifacts are bulleted under each outcome.

**5A**

**1. Synthesize the knowledge and skills gained within major courses, independently complete a research-based project or creative work and integrate the results of both in an open-ended project or experience (projects within the major are encouraged).**

* Research reviews
* individual capstone paper

**2. Integrate knowledge and principles from the field of study with those of the broader University Studies curriculum.**

* Individual capstone paper

The economics of education is a highly multidisciplinary field, drawing on research both in the education literature and in the psychology literature. Understanding the impact of educational policies has several implications with regards to the social world. Reading, discussing and researching topics within this field requires students to apply basic economic principles to the allocation of resources (both public and private) to education. Understanding the role of education and allocating its resources help students understand poverty (both local and worldwide), racial and ethnic differences, and income inequality.

**3. Demonstrate advanced information literacy skills by selecting, evaluating, integrating and documenting information gathered from multiple sources into discipline-specific writing.**

* Individual capstone paper - specifically, the annotated bibliography sub-assignment and the subsequent draft and final versions of the paper

**4. Communicate effectively, both orally and in writing, the results of the project or experience.**

* Individual capstone paper
* Oral presentation of capstone paper