

**ABIZ 7940/ECON 7940 Course Outline**  
**PRODUCTION ECONOMICS**

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The course surveys several microeconomic models. The following are emphasized: (1) a rigorous treatment of the models using duality; (2) a critical understanding of the limitations and possibilities for generalizing the models; and (3) relevance of the models for econometric research.

Prerequisites: a graduate or undergraduate honors course in microeconomics; a rigorous first course in econometrics; calculus; or consent of instructor.

There is no textbook for the course. Detailed lecture notes will be available for most topics. For lecture notes: go to [umanitoba.ca](http://umanitoba.ca); then on upper right (in the Search box) type 1283.html - then click on my webpage, then select Production Notes (click on). Alternatively you can go to: [http://umanitoba.ca/faculties/afs/dept/agribusiness/media/pdf/Production\\_Notes.pdf](http://umanitoba.ca/faculties/afs/dept/agribusiness/media/pdf/Production_Notes.pdf)

Nevertheless, the following textbooks may be of interest:

1. Hal R. Varian, *Microeconomic Analysis*, Norton, 3<sup>rd</sup> ed. 1992.
2. Robert G. Chambers, *Applied Production Analysis: A Dual Approach*, Cambridge University Press, 1988.
3. Charles B. Moss, *Production Economics: An Empirical Approach*, 2015, Draft Textbook online: word press.com (on Google, type in the title, then select red download rectangle on the bottom of page 1).

**Grading:**

1 midterm, 1 final exam, 1 term paper (due last day of class). Weights for these will be 1/3 each in calculating the course grade.

**Term Paper:**

The term paper can be any original applied or theoretical study that you can justify as being broadly related to the content of this course. For the term paper, you can present an econometric study, an empirical study not using econometrics, or a theoretical study. In your paper include a clear statement of: (1) any policy issues that you are addressing; (2) how your study relates to other studies attempting to address these issues; (3) the behavioral or econometric model that you are employing and why you chose it over alternative models. If you are doing an econometric study: explain your methodology for specifying and estimating the regression model and testing relevant hypotheses, explain results, and provide a candid assessment of limitations of your study and how future research might try to address these.

Note: see the University General Calendar for policies regarding plagiarism and cheating. During online exams, each student must complete the exam independent – any discussion with others (or use of service in answering exams) will be considered as plagiarism and cheating.

## Topic and Reading List

**Note:** \* denotes readings that are highly recommended.

### Introduction

\* Shumway, 1995

Clark and Coyle, 1994

Shumway, 1993

### 1. Static Cost Minimization

\* Varian, 1992, Ch. 1,4,5,6

\* Chambers, 1988, Ch. 2,3

\* Diewert, 1982

Blackorby and Diewert, 1979

Brown and Christensen, 1981

Diewert, 1974, 1981b

Hall, 1973

McFadden, 1978

Morrison, 1988

### 2. Static Profit Maximization

\*Varian, 1992, Ch. 2,3

\*Chambers, 1988, Ch. 4

\*Diewert, 1982

Chambers and Just, 1989

Coyle, 1993b

Diewert, 1974

Hertel, 1987

Lau, 1976, 1978a

Lopez, 1984

McFadden, 1978

Paris, 1989

Quiggin and Bui-Lan, 1984

Shumway, Pope and Nash, 1984

### 3. Static Utility Maximization and Expenditure Constraints

\*Varian, 1992, Ch.7,8

\*Diewert, 1982

Appelbaum, 1979

Chambers, 1988

Deaton and Muellbauer, 1980, Ch.2

Diewert, 1974

Coyle, 1990

Lee and Chambers, 1987

4. Nonlinear Static Duality Theory  
Epstein, 1981a  
Hurwicz and Uzawa, 1971  
Silberberg, 1974a
  
5. Functional Forms for Static Optimising Models  
\*Varian, 1992, Ch.12  
\*Chambers, 1988, Ch. 5  
\*Berndt, 1991, Ch. 9  
\*Diewert, 1982  
\*Lau, 1986  
Appelbaum, 1978, 1979  
Barnett and Lee, 1985  
Berndt and Khaled, 1979  
Christensen and Greene, 1976  
Coyle, 1989  
Deaton and Muellbauer, 1980, Ch.3  
Diewert, 1971, 1973, 1974  
Diewert and Wales, 1987, 1992  
Fuss, McFadden and Mundlak, 1978  
La France, 1985  
Lau, 1974  
Stapleton, 1981  
Varian, 1982, 1984, 1990
  
6. Aggregation Across Agents in Static Models  
\*Deaton and Muellbauer, 1980, Ch.6  
\*Chambers, 1988, Ch. 5.6 - 5.9  
Berndt, Darrough and Diewert, 1977  
Blackorby, Boyce and Russell, 1978  
Chambers and Pope, 1994  
Coyle, 2002  
Debreu, 1974  
Diewert, 1977, 1980a  
Gorman, 1953, 1980  
Lau, 1980  
Mantel, 1977  
Pope and Chambers, 1989  
Shafer and Sonnenschein, 1982  
Sonnenschein, 1973
  
7. Aggregation Across Commodities: Non-Index Number Approaches  
\*Deaton and Muellbauer, 1980, Ch.5  
Blackorby, Primont and Russell, 1978  
Bliss, 1975, Ch.5

- Blundell and Robin, 2000  
 Coyle, 1993a  
 Gorman, 1959  
 Lewbel, 1996
8. Index Numbers and Flexible Functional Forms  
 \*Diewert, 1976  
 Allen and Diewert, 1981  
 Caves, Christensen and Diewert, 1982  
 Deaton and Muellbauer, 1980, Ch.7  
 Diewert, 1978, 1981c  
 Hulten, 1973
9. Models of Technical Change  
 \*Chambers, 1988, Ch. 6  
 \*Diewert, 1980b  
 Acemoglu, 2002  
 Berndt, 1983  
 Berndt and Christensen, 1983  
 Berndt and Fuss, 1986  
 Berndt and Hesse, 1986  
 Blackorby, Lovell and Thursby, 1976  
 Caves, Christensen and Diewert, 1982  
 Chambers, 1989  
 Chavas and Cox, 1988, 1990  
 Clark and Youngblood, 1992  
 Cox and Chavas, 1990  
 Denny and Fuss, 1983  
 Epstein and Denny, 1980  
 Hulten, 1986  
 Lau, 1982  
 Morrison, 1986  
 Ball, 1985  
 Capalbo and Denny, 1986  
 Capalbo and Vo, 1985  
 Kislev and Peterson, 1981  
 Romer, 1990
10. Measurement of Technical and Allocative Efficiency  
 \*Kumbhakar and Lovell, 2000, Ch. 2-4 (esp. pp. 63-80, 90-93, 136-139, 154-166)  
 Aigner, Lovell and Schmidt, 1977  
 Charnes, Cooper, Lewin and Seiford, 1994  
 Ferrier and Lovell, 1990  
 Greene 1993, 1997  
 Jondrow, Lovell, Materov and Schmidt, 1982  
 Kopp and Diewert, 1982

Kumbhakar, 1997  
Schmidt and Lovell, 1979

11. Production Models with Uncertainty
  - \*Varian, 1992, Ch.11
  - \*Coyle, 2003
  - Anderson, Dillon and Hardaker, 1977
  - Coyle, 1992,1999
  - Deaton and Muellbauer, 1980, Ch.14
  - Epstein, 1978
  - Hartman, 1976
  - Just and Pope, 1979
  - Laffont, 1989
  - Meyer, 1987
  - Newberry and Stiglitz, 1981
  - Pope, 1980
  - Pope and Chavas, 1994
  - Pope and Just, 1995, 1998
  - Robison and Barry, 1987
  - Sinn, 1983
  
12. Comparative Dynamics: An Introduction and the Primal-Dual Approach
  - \*Caputo, 1990a
  - Arrow and Kurz, 1970, Ch.2
  - Berndt, Morrison and Watkins, 1981
  - Caputo, 1990b, c
  - Epstein, 1981b
  - Epstein and Denny, 1983
  - Hestenes, 1966
  - Intriligator, 1971, Ch.11-14
  - Kamien and Schwartz, 1981
  - Nagatani, 1981
  - Takayama, 1985, Ch.5 and 8

