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; 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

Nevertheless, the following textbooks may be of interest:
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 and Wales, 1987, 1992
   Fuss, McFadden and Mundlak, 1978
   La France, 1985
   Lau, 1974
   Stapleton, 1981

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
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