Economics 416: Theory of Economic Development
Fall 2015

Instructor: Prof. Raymond Guiteras

Lectures:

> Section 0101: TuTh 8:00–9:15 a.m., Tydings 2110
>
> Section 0201: TuTh 11:00 a.m. – 12:15 p.m., Tydings 1114
>
> Section 0301: TuTh 9:30 a.m. – 10:45 a.m., Tydings 2111

Office Hours: Tu 12:15–1:15 p.m. and Th 2:00–3:00 p.m., 3115H Tydings

Overview: This course will cover fundamental issues in development economics. There will be six units: (1) labor markets; (2) measuring poverty; (3) health; (4) credit markets; (5) neoclassical growth model (Solow); (6) endogenous growth model (Romer). As the course title suggests, the emphasis will be on the use of economic theory to explore issues arising in developing countries; however, empirical studies providing motivation for or tests of theoretical developments will be discussed. If time permits, we will have a short unit on empirical methods at the end of the course.

Warning: this course is designed for students with a serious interest in rigorous, technical economics, as practiced by researchers in universities and leading institutions (e.g., the World Bank, IMF, etc.). The course will provide a glimpse of the sort of economic science pursued during further study at the graduate level (M.A., Ph.D.) or during post-B.A. work at research organizations such as the Jameel Poverty Action Lab, Innovations for Poverty Action or the Center for Global Development. The science of economics today is (for better or worse) highly mathematical, and this course is designed accordingly.

Prerequisites: Minimum grade of C- in ECON326; and 1 course with a minimum grade of C- from (ECON321, STAT400). Restriction: Must be in a major within the BSOS-Economics department. Credit only granted for one of ECON315 or ECON416.

Since ECON 300 is a prerequisite for ECON 326, by transitivity ECON 300 is also a prerequisite for this course, and students should be comfortable with the material covered there, especially: constrained optimization, probability and decision-making under uncertainty (expected utility theory, risk aversion). Students in need of a review are encouraged to consult an intermediate micro or math for economists textbook. Two examples are given in the syllabus.

Course grade: The course grade will be based on three non-cumulative exams, each weighted equally, plus extra credit for completing problem sets as detailed below.

Problem sets: There will be 6 total problem sets, due on Thursday, September 17 (Unit 1), Thursday, October 1 (Unit 2), Thursday, October 22 (Unit 3), Thursday, November 5 (Unit 4), Tuesday, December 1 (Unit 5), and Thursday, December 10 (Unit 6). Problem sets are due *at the beginning of class.* You have two options for handing in your problem set: (1) hand it in in class on the day it is due or (2) submit a single PDF to the ELMS site. *No late problem sets will be accepted* except in the event of serious illness and a doctor's note must be provided (see *Illness* section below). You are permitted (indeed, encouraged) to collaborate on problem sets, but each student must write up and submit an individual solution unless specific instruction to the contrary is given on the problem set.

Each student starts the semester with 1/3 of a GPA point extra credit banked. Students can preserve extra credit by turning in problem sets on time. You do not have to get everything right or even complete everything on a problem set to retain your extra credit, but you must, in the judgement of the grader, make a reasonable effort at *all parts of all questions* unless otherwise noted. (Some psets may have optional sections; these will be clearly marked in the instructions.) If you do not make a reasonable effort at all required parts of a problem set, you will lose 1/6 of your extra credit (i.e. 1/3 * 1/6 = 1/18 of a GPA point).

Exams: There will be three non-cumulative exams, each counting for 1/3 of the course grade. No makeup or rescheduled midterm exam will be permitted except in the case of an excused absence (see *Excused Absences, Make-up Exams and Documentation of Medical Issues* section below).

The first exam, covering units 1 and 2, will be held in class on Thursday, October 8. There will be a review session in class on Tuesday, October 6.

The second exam, covering units 3 and 4, will be held in class on Thursday, November 12. There will be a review session in class on Tuesday, November 10.

The third exam, covering units 5 and 6, will be held at the standard scheduled exam time during the exam period:

- Section 0101: Friday, December 18, 10:30 a.m. – 12:30 p.m
- Section 0201: Monday, December 14, 8:00 a.m. – 10:00 a.m.
- Section 0301: Tuesday, December 15, 8:00 a.m. – 10:00 a.m.

A review session for the final will be held in class on Thursday, December 10.

Students whose class schedule requires them to take more than three final examinations on the same day have the right to reschedule examinations so they have no more than three on a given day. The student must take responsibilty for initiating the rescheduling or be responsible for taking the examinations as scheduled. When rescheduling is necessary, the student should first contact the instructor. Students wishing to reschedule a final examination under this rule should contact the instructor by Tuesday, September 15.

Each exam will make up 1/3 of the course grade. Exam grades will be given on the usual 4-point GPA scale.[1]

Course website: `https://myelms.umd.edu/courses/1152318`.

The course website will be the central source for materials for the course (problem sets, readings, etc.). Please be sure you have access and check it regularly.

Communication: Use the ELMS messaging system for all communication related to the course. Please do not use email. I will do my best to respond as soon as I can but you should not expect a reply any sooner than 24 hours.

Requirements: (1) write messages that are professional, concise and specific; (2) write an informative subject line; (3) demonstrate that you have done a reasonable amount of background investigation before writing me. For example, I am unlikely to reply to messages asking about the date of the next exam or whether the exams are cumulative unless there is legitimate uncertainty. For further advice, consult:

`http://scienceblogs.com/sciencewoman/2009/01/how_to_write_clear_emails_to_y.php`

`http://chrisblattman.com/2010/11/08/students-how-to-email-to-your-professor-employer-and-professional-peers/`

Various necessary statements

No use of laptops, tablets or cell phones is permitted in class. Students may use pen-enabled tablets or convertibles for notetaking only. Students will be provided with paper copies of lecture notes, which will also be available on the course website. Exceptions will be made with a note from DSS.

Academic honesty: The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards

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[1]That is, $A = 4.0$, $A- = 3.67$, ..., $D = 1$, $F = 0$. There will be some variation within grade category based on the raw number of points awarded on the exam. That is, the best $A-$ will receive a higher "GPA score" than the worst $A-$, the best $B+$ will receive a higher score than the worst $B+$, but a lower score than the worst $A-$, etc. This calcuation is somewhat complicated but details, consisting of computer code, will be made available to students on request.

applicable to all undergraduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information see `www.studenthonorcouncil.umd.edu`. If I observe what I believe is a violation of the Code of Academic Integrity, I will refer any and all students involved to the Student Honor Council.

You are permitted (indeed, encouraged) to collaborate on problem sets, but each student must write up and submit an individual solution unless specific instruction to the contrary is given on the problem set.

Excused Absences, Make-up Exams and Documentation of Medical Issues: Students are required to take all three exams since these assessments are "major scheduled grading events". Make-up exams will be granted only to those students whose excuse complies with University policy. The four valid excuses according to University policy are: illness (of student or a student's dependent), religious observance, participation in University events at the request of University authorities, and compelling circumstances beyond your control. See `http://www.testudo.umd.edu/soc/atedasse.html` for more detail on the University's policy regarding attendance and assessments. If you miss an exam and cannot document a valid excuse, your grade will be recorded as a zero.

If you believe you need a make-up exam, please inform me as far in advance as possible by email and at a minimum the day of the exam. Do not wait until afterwards to tell me you are sick. If you find that you will miss 3 or more lectures in a row due to illness or other valid excuses, you must contact me by email to explain. You will not be allowed postpone a midterm because of absences earlier in the semester unless (a) these are valid, excused absences and (b) you have informed me of your situation at least one week prior to the exam.

University policy requires that you provide appropriate documentation before you can be considered eligible for a make-up exam. In the case of illness, ask your health care provider to verify in writing the dates of treatment and indicate the time frame that you are unable to meet academic responsibilities. No diagnostic information should be given. In the case of other valid excuses, consult with me as soon as possible about how to document the reason you have missed the scheduled exam.

Any falsification of documentation of an excused absence will be referred to the Student Honor Council.

Religious observances: We will make every effort to accomodate students' religious observances. By Tuesday, September 15, students must provide me in writing a request for

accomodation if some requirement of the class will conflict with a specific and required religious observance. Please specify the observance and date. For further details, refer to the Online Undergraduate Catalog Policy on Religious Observance.

Students with disabilities: We will make every effort to accommodate students who are registered with the Disability Support Services (DSS) Office and who provide me with a University of Maryland DSS Accommodation form which has been updated for the Fall 2015 semester. This form must be presented to me no later than by Tuesday, September 15. I am not able to accommodate students who are not registered with DSS or who do not provide me documentation which has been reviewed by DSS after by Tuesday, September 15.

Decorum: Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility with one another or with the instructors will be subject to being referred to the Office of Student Conduct or to Campus Police. You are expected to adhere to the Code of Student Conduct at all times.

Texts:

Required:

Abhijit V. Banerjee and Esther Duflo. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* Public Affairs, 2011

Recommended:

Debraj Ray. *Development Economics.* Princeton University Press, 1998

Review of micro / math for economists:

Avinash K. Dixit. *Optimization in Economic Theory.* Oxford University Press, 1990

Walter Nicholson. *Microeconomic Theory: Basic Principles and Extensions.* South-Western College, 10th edition, 2010
Any edition of Nicholson will be useful, but be sure it is the Theory book.

Optional:

Abhijit V. Banerjee, Roland Benabou, and Dilip Mookherjee, editors. *Understanding Poverty.* Oxford, 2006

Todaro and Smith, *Economic Development*, 11 ed.

Course Outline

Required readings marked **. Recommended readings marked *. Supplementary readings will be added during the semester. Readings marked # are more technically demanding and are provided for those with an interest in pursuing graduate study in economics. Note that to access some materials (in particular, journal articles) you may need to be on campus and / or log into the library's ResearchPort website: `http://researchport.umd.edu/`.

1. Agricultural land and labor markets: An introduction to the economics of risk and information

   * Chap. 11 and 12 in Ray [1998]

   * Useful review of risk aversion and expected utility theory in Chapter 8 of Nicholson [2010]

   # Abhijit V. Banerjee, Paul Gertler, and Maitresh Ghatak. Empowerment and efficiency: Tenancy reform in West Bengal. *Journal of Political Economy*, 110(2):239–280, April 2002. URL `http://www.journals.uchicago.edu/cgi-bin/resolve?JPE110203PDF`

   # Joseph Stiglitz. Incentives and risks in sharecropping. *Review of Economic Studies*, 41 (2):215–255, 1974. URL `http://www.jstor.org/stable/2296714`

2. Measuring Poverty

   ** *World Development Indicators 2008: Poverty data*, World Bank, December 2008. `http://siteresources.worldbank.org/DATASTATISTICS/Resources/WDI08supplement1216.pdf`

   ** Abhijit V. Banerjee and Esther Duflo. The economic lives of the poor. *The Journal of Economic Perspectives*, 21:141–167(27), Winter 2007. URL `http://www.ingentaconnect.com/content/aea/jep/2007/00000021/00000001/art00007`

   See also the supplementary and updated tables for the Banerjee and Duflo paper available at `http://econ-www.mit.edu/files/3792`

   ** Blog debate on the Human Development Index – readings posted to the course website

   * Human Development Report 2010, United Nations Development Programme, 2010. `http://hdr.undp.org/en/reports/global/hdr2010/`. Overview at `http://hdr.undp.org/en/media/HDR10%20EN%20summary_without%20table.pdf`

   * *The Millennium Development Goals Report 2011*, United Nations, 2011. `http://www.un.org/millenniumgoals/pdf/%282011_E%29%20MDG%20Report%202011_Book%20LR.pdf`

* Deaton, "Measuring Poverty," Chap. 1 in Banerjee et al. [2006]

\# Angus Deaton and Valerie Kozel. Data and dogma: The great Indian poverty debate. *World Bank Research Observer*, 20:177–199, August 2005. URL `http://www.princeton.edu/~deaton/downloads/deaton_kozel_great_indian_poverty_debate_wbro_2005.pdf`

\# Chap. 2.1-2.4 in Ray [1998]

\# Martin Ravallion, Shaohua Chen, and Prem Sangraula. Dollar a day revisited. *The World Bank Economic Review*, 23(2):163–184, 2009. doi: 10.1093/wber/lhp007. URL `http://wber.oxfordjournals.org/content/23/2/163.abstract`

\# Angus Deaton. Measuring poverty in a growing world (or measuring growth in a poor world). *Review of Economics and Statistics*, 87(1):1–19, 2005. URL `http://www.mitpressjournals.org/doi/abs/10.1162/0034653053327612`

3. Credit: An introduction to adverse selection and moral hazard

   ** Chapter 7 of Banerjee and Duflo [2011]

   (a) Credit constraints

   * Chap. 14 in Ray [1998]

   * Section 2.1.1 in Abhijit V. Banerjee and Esther Duflo. Growth theory through the lens of development economics. In Philippe Aghion and Steven N. Durlauf, editors, *Handbook of Economic Growth*, volume 1, chapter 7, pages 473–552. Elsevier, 2005. URL `http://dx.doi.org/10.1016/S1574-0684(05)01007-5`

   \# Abhijit V. Banerjee. Contracting constraints, credit markets, and economic development. In Mathias Dewatripoint, Lars Hansen, and Stephen Turnovsky, editors, *Advances in Economics and Econometrics: Theory and Applications, Eighth World Congress of the Econometric Society*, volume III, chapter 1, pages 1–46. Cambridge University Press, 2004a. URL `http://web.mit.edu/14.771/www/con-dev-april-2002-v-6-23.pdf`

   \# Abhijit V. Banerjee. The two poverties. In Stefan Dercon, editor, *Insurance Against Poverty*, chapter 3. Oxford University Press, 2004b. URL `http://www.samfunnsforskning.no/files/NOPEC_2000_7.pdf`

   (b) Microcredit and microfinance

   ** Beatriz Armendariz de Aghion and Jonathan Morduch. Microfinance: Where do we stand? In Charles Goodhart, editor, *Financial Development and Economic Growth: Explaining the Links*, chapter 5. Palgrave Macmillan, 2004. URL `http://www.nyu.edu/projects/morduch/documents/microfinance/Microfinance_Where_Do_We.pdf`

* Abhijit V. Banerjee, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan. The miracle of microfinance? Evidence from a randomized evaluation. MIT Working Paper, May 2009. URL `http://econ-www.mit.edu/files/4161`

* Jonathan Morduch. The microfinance promise. *Journal of Economic Literature*, 37 (4):1569–1614, December 1999. URL `http://www.jstor.org/stable/2565486`

Joseph Stiglitz. Peer monitoring and credit markets. *World Bank Economic Review*, 4(3):351–366, 1990. URL `http://www.jstor.org/stable/3989881`

If you are interested in recent news about microfinance, I highly recommend David Roodman's *Microfinance Open Book Blog* at `http://blogs.cgdev.org/open_book/`.

4. Health: An introduction to microeconomic poverty traps

   (a) Health and health care in LDCs

   ** Chapter 3 of Banerjee and Duflo [2011]

   ** Abhijit Banerjee, Angus Deaton, and Esther Duflo. Wealth, health, and health services in rural Rajasthan. *The American Economic Review*, 94(2):326–330, 2004. URL `http://www.jstor.org/stable/3592904`

   * Abhijit V. Banerjee and Esther Duflo. Aging and death under a dollar a day. (13683), December 2007. URL `http://www.nber.org/papers/w13683`

   (b) The impact of poor health on development

   ** Chapter 1 of Banerjee and Duflo [2011]

   * Chap. 8 and 13 in Ray [1998]

   * Duncan Thomas and Elizabeth Frankenberg. Health, nutrition and prosperity: a microeconomic perspective. *Bulletin of the World Health Organization*, 80(2):106–113, 2002. URL `http://www.who.int/bulletin/archives/80(2)106.pdf`

5. Neoclassical growth theories: Harrod-Domar and Solow
   * Chap. 3 in Easterly, *The Elusive Quest for Growth*
   William J. Baumol. Productivity growth, convergence, and welfare: What the long-run data show. *The American Economic Review*, 76(5):1072–1085, 1986. ISSN 00028282. URL `http://www.jstor.org/stable/1816469`
   J. Bradford De Long. Productivity growth, convergence, and welfare: Comment. *The American Economic Review*, 78(5):1138–1154, 1988. ISSN 00028282. URL `http://www.jstor.org/stable/1807174`
   Lant Pritchett. Divergence, big time. *The Journal of Economic Perspectives*, 11(3):3–17, 1997. URL `http://www.jstor.org/stable/2138181`

Mankiw, N. Gregory, Romer, David, and Weil, David N. A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*, 107(2):407–437, May 1992. URL `http://www.jstor.org/stable/2118477`

Klenow, Peter J. and Rodriguez-Clare, Andrés. The Neoclassical revival in growth economics: Has it gone too far? *NBER Macroeconomics Annual*, 12:73–103, 1997. URL `http://www.jstor.org/stable/3585220`

Chap. 3 in Ray [1998]

6. New growth theory

* Romer, Paul, "Economic Growth," in *The Concise Encyclopedia of Economics.* Available at `http://www.stanford.edu/~promer/EconomicGrowth.pdf`

* Charles Jones and Paul Romer. The new Kaldor facts: Ideas, population and human capital. Working Paper, 2009. URL `http://www.stanford.edu/~chadj/Kaldor200.pdf`

Aghion and Armendariz de Aghion, "New Growth Approach to Poverty Alleviation," Chap. 5 in Banerjee et al. [2006]

Paul M. Romer. Endogenous technological change. *The Journal of Political Economy*, 98(5):S71–S102, October 1990. ISSN 00223808. URL `http://www.jstor.org/stable/2937632`

Chap. 4 in Ray [1998]

References

Abhijit Banerjee, Angus Deaton, and Esther Duflo. Wealth, health, and health services in rural Rajasthan. *The American Economic Review*, 94(2):326–330, 2004. URL `http://www.jstor.org/stable/3592904`.

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Abhijit V. Banerjee and Esther Duflo. Aging and death under a dollar a day. (13683), December 2007. URL `http://www.nber.org/papers/w13683`.

Abhijit V. Banerjee and Esther Duflo. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* Public Affairs, 2011.

Abhijit V. Banerjee and Esther Duflo. The economic lives of the poor. *The Journal of Economic Perspectives*, 21:141–167(27), Winter 2007. URL `http://www.ingentaconnect.com/content/aea/jep/2007/00000021/00000001/art00007`.

Abhijit V. Banerjee, Paul Gertler, and Maitresh Ghatak. Empowerment and efficiency: Tenancy reform in West Bengal. *Journal of Political Economy*, 110(2):239–280, April 2002. URL `http://www.journals.uchicago.edu/cgi-bin/resolve?JPE110203PDF`.

Abhijit V. Banerjee, Roland Benabou, and Dilip Mookherjee, editors. *Understanding Poverty.* Oxford, 2006.

Abhijit V. Banerjee, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan. The miracle of microfinance? Evidence from a randomized evaluation. MIT Working Paper, May 2009. URL `http://econ-www.mit.edu/files/4161`.

William J. Baumol. Productivity growth, convergence, and welfare: What the long-run data show. *The American Economic Review*, 76(5):1072–1085, 1986. ISSN 00028282. URL `http://www.jstor.org/stable/1816469`.

Beatriz Armendariz de Aghion and Jonathan Morduch. Microfinance: Where do we stand? In Charles Goodhart, editor, *Financial Development and Economic Growth: Explaining the Links*, chapter 5. Palgrave Macmillan, 2004. URL `http://www.nyu.edu/projects/morduch/documents/microfinance/Microfinance_Where_Do_We.pdf`.

Angus Deaton. Measuring poverty in a growing world (or measuring growth in a poor world). *Review of Economics and Statistics*, 87(1):1–19, 2005. URL `http://www.mitpressjournals.org/doi/abs/10.1162/0034653053327612`.

Angus Deaton and Valerie Kozel. Data and dogma: The great Indian poverty debate. *World Bank Research Observer*, 20:177–199, August 2005. URL `http://www.princeton.edu/~deaton/downloads/deaton_kozel_great_indian_poverty_debate_wbro_2005.pdf`.

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Charles Jones and Paul Romer. The new Kaldor facts: Ideas, population and human capital. Working Paper, 2009. URL `http://www.stanford.edu/~chadj/Kaldor200.pdf`.

Klenow, Peter J. and Rodriguez-Clare, Andrés. The Neoclassical revival in growth economics: Has it gone too far? *NBER Macroeconomics Annual*, 12:73–103, 1997. URL `http://www.jstor.org/stable/3585220`.

J. Bradford De Long. Productivity growth, convergence, and welfare: Comment. *The American Economic Review*, 78(5):1138–1154, 1988. ISSN 00028282. URL `http://www.jstor.org/stable/1807174`.

Mankiw, N. Gregory, Romer, David, and Weil, David N. A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*, 107(2):407–437, May 1992. URL `http://www.jstor.org/stable/2118477`.

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Martin Ravallion, Shaohua Chen, and Prem Sangraula. Dollar a day revisited. *The World Bank Economic Review*, 23(2):163–184, 2009. doi: 10.1093/wber/lhp007. URL `http://wber.oxfordjournals.org/content/23/2/163.abstract`.

Debraj Ray. *Development Economics*. Princeton University Press, 1998.

Paul M. Romer. Endogenous technological change. *The Journal of Political Economy*, 98(5): S71–S102, October 1990. ISSN 00223808. URL `http://www.jstor.org/stable/2937632`.

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Joseph Stiglitz. Peer monitoring and credit markets. *World Bank Economic Review*, 4(3): 351–366, 1990. URL `http://www.jstor.org/stable/3989881`.

Duncan Thomas and Elizabeth Frankenberg. Health, nutrition and prosperity: a microeconomic perspective. *Bulletin of the World Health Organization*, 80(2):106–113, 2002. URL `http://www.who.int/bulletin/archives/80(2)106.pdf`.