Course title: Macroeconomics-II

Course code: MPE 129	**No. of credits:** 4	**L-T-P:** 60-0-0	**Learning hours:** 60

Pre-requisite course code and title (if any): MPE 113 (Mathematical Methods for Economics) or equivalent

Department: Department of Policy and Management Studies

Course coordinator: Dr Shantanu De Roy	**Course instructor:** Dr Shantanu De Roy

Contact details: shantanu.roy@terisas.ac.in

Course type: Core	**Course offered in:** Semester 2

Course description:

This course introduces theories of economic growth and their applications with an emphasis on application to India's economic growth. Dynamic macroeconomic models are used here to analyse the process of economic growth. Besides the models, other empirical tools will also be used to identify factors that lead to economic growth in India andother developing nations.

Course objectives:

1. Understanding the factors that lead to economic growth of nation-states.
2. To equip the students with tools and techniques to appreciate and analyze dynamic macroeconomic models andempirical strategies that can explain the process of economic growth.
3. To foreground the role(s) played by the institutions, human capital, and environment in the economic growth. Enabling the students to evaluate the application of concepts, theories, and models in explaining India's economicgrowth.

Course contents

Module	Topic	L	T	P
1	Introduction Cross country differences in Income A narrative on India's economic growth	4	0	0
2	Harrod-Domar Model	4	0	0
3	Kaldorian and Kaleckian Growth Models	8	0	0
4	Solow Model	6	0	0
5	Solow Growth Accounting	4	0	0
6	Neo-Classical Growth Models: Introduction	6	0	0
7	Models with Overlapping Generations	4	0	0
8	Empirics: Cross-country Differences in Economic Performances	6	0	0
9	Endogenous Growth Models	6	0	0
10	Institutions and Economic Growth	4	0	0
11	Human Capital and Economic Growth	4	0	0
12	Environment and Economic Growth	4	0	0
	Total (in hours)	**60**	**0**	**0**

Evaluation criteria:

1. **Minor 1 Exam**- Written examination (Modules 1 to 5) [30%]
2. **Minor 2 Exam**-Written examination (Modules 6 to 12) [40%]
3. **Major Exam**-Written examination (entire course) [30%]

Learning outcomes:

At the end of this course, students will be able to

1. Identify factors that have influenced economic growth in India and the associated policy implications [Minor 1]
2. Appreciate empirical strategies in Growth Economics. Understand the contribution of institutions and human capital to economic growth as well as limits of growth imposed by natural resources and environmental degradation. [Minor 2]
3. Understand different macroeconomic models of growth. Assess the applicability of economic growth models in India and other developing nations. [Minors 1, 2 and Major exam]

References (* = compulsory readings)

Books

a. Acemoglu, Daron. 2009.*Introduction to Modern Economic Growth* (DA henceforth), Princeton: PrincetonUniversity Press.
b. Sen, Amartya. 1970.*Growth Economics – Selected Readings*, Middlesex, England: Penguin.

c. Aghion, Philippe and Peter W. Howitt. 2008.*The Economics of Growth*, Cambridge MA: MIT Press.
d. Robert J. Barro and Xavier I. Sala-i-Martin. 1998 *Economic Growth*, Cambridge MA: MIT Press,
e. Romer, David.2018. *Advanced Macroeconomics*, 5th Ed. (DR henceforth)New York: McGraw Hill.

Suggested Readings

1. *Introduction; Cross-country differences in income; A narrative of India'sgrowth story*
   a. DA – Chapter 1
   b. Jones, Charles I. 1997. "On the Evolution of the World Income Distribution." *Journal of Economic Perspectives* 11, no. 3 (Summer): 19-36.
   c. Basu, K., and A. Maertens. 2007. -The Pattern and Causes of Economic Growth in India.‖ *Oxford Review of Economic Policy*, 23(2): 143-167.
   d. Rodrik, D., and A. Subramanian. 2005.-From Hindu Growth" to Productivity Surge: The Mystery ofthe Indian Growth Transition.‖ IMF Staff Papers, Palgrave Macmillan, 52(2), 193-228.
   e. Binswanger-Mkhize, Hans P. 2013. -The Stunted Structural Transformation of the Indian Economy Agriculture, Manufacturing and the Rural Non-Farm Sector‖ *Review of Rural Affairs, EPW supplement*, vol.xlviii nos. 26 & 27: 5-12 http://www.e pw.in/syste m/file s/pdf/2013_48/2627/T he _Stunte d_Struc tural_T ra nsforma tion_of_the _Ind ian_ Economy.pdf

2. *Harrod-DomarModel*
   a. Harrod, Roy F. 1939. "An Essay in Dynamic Theory". *The Economic Journal*. 49 (193): 14–33.
   b. Domar, E. 1946. "Capital Expansion, Rate of Growth, and Employment". *Econometrica*. 14 (2):137–147.

3. *Kaldorian and Kaleckian Growth Models*
   a. Kaldor, N. 1957. -A Model of Economic Growth.‖ *The Economic Journal*, 67(268): 591-624. doi:10.2307/2227704
   b. Setterfield, Mark and John Cornwall. 2002. -A Neo-Kaldorian Perspective on the Rise and Decline of the Golden Age.‖ In *The Economics of Demand-Led Growth*, edited by Setterfield. M., 67-86. Mass: Edward Elgar Publishing.
   c. Amitava Krishna Dutt. 2012. "Kaleckian Growth Theory: An Introduction," *Metroeconomica*, vol. 63(1): 1-6
   d. Blecker, Robert.2002.-Distribution, Demand and Growth in Neo-Kaleckian Macro-Models.‖In *The Economics of Demand-Led Growth*, edited by Setterfield. M., 129-152. Mass: Edward Elgar Publishing.
   e. Sawyer, Malcolm. 2012.-The Kaleckian Analysis of Demand-Led Growth, *Metroeconomica*, vol. 63(1):7- 28.

4. *Solow Model*
   a. DA – Chapter 2
   b. Solow, Robert. 2000.*Growth Theory: An Exposition*. 2nd ed. NY: Oxford University Press, ISBN:9780195109030
   c. DeLong, J. B. 2003.-India since Independence: An analytic growth narrative. In *In Search of Prosperity: Analytic Narratives on Economic Growth*, edited by D. Rodrik: 184-204. Princeton NJ: Princeton University Press.
   d. Robertson, Peter E. 2010. "Investment Led Growth in India: Fact or Mythology", *Economic and PoliticalWeekly*, 45(40): 120-124.

5. *Solow Growth Accounting*
   a. DA – Chapter 3
   b. Bosworth, Barry & Susan M. Collins & Arvind Virmani. 2006. "Sources of Growth in the Indian Economy,"*India Policy Forum*, vol. 3: 1-6.http://www.ncaer.org/publica tion_de ta ils.php? pID=161

6. *Neo-classical Growth Models (Ramsey-Cass-Koopman model)*
a. DA Chapter 5; Chapter 8

7. *Growth with Overlapping Generations*
   a. DA Chapter 9
   b. Ghate, Chetan, Gerhard Glomm and Jialu Liu Streeter. 2016. -Sectoral Infrastructure Investments in an Unbalanced Growing Economy: The Case of Potential Growth in India‖, *Asian Development Review*, 33(2):144-166.
   c. Agénor, P., J. Mares and P. Sorsa. 2015. -Gender Equality and Economic Growth in India: A Quantitative Framework‖, *OECD Economics Department Working Papers, No. 1263*, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jrtpbnt7zf4-en

8. *Endogenous Growth Models*
   a. DA Chapter 11
   b. Madsen, Jakob B,Shishir Saxena, and James B Ang. 2010. "The Indian growth miracle and endogenous growth." *Journal of Development Economics*, vol. 93(1): 37-48.

9. *Empirics: Determinants of differences in economic performances*
   a. DA Chapter 4
   b. Mankiw, N. Gregory, David Romer, and David N. Weil. 1992. "A Contribution to the Empirics ofEconomic Growth." *Quarterly Journal of Economics*, 107 (2): 407-437.
   c. Young, Alwyn. 1995. "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience." *Quarterly Journal of Economics* 110(3): 641-680.
   d. Hall, Robert, and Charles I. Jones. 1999. "Why Do Some Countries Produce So Much More Output perWorker than Others?" *Quarterly Journal of Economics* 114(1): 83-116.
   e. Quah, Danny. 1997. "Empirics for Growth and Distribution: Stratification, Polarization, and Convergence Clubs." *Journal of Economic Growth*, 2(1): 27-59.
   f. Kumar, Utsav and Arvind Subramanian. 2012 -Growth in India's States in the First Decade of the 21st Century: Four Facts.‖ *Economic and Political Weekly*, 47(3): 48–57.

10. *Institutions and Economic Growth*
   a. DA- Ch 24, 25, 26 North, Douglass C. 1989. -Institutions and economic growth: An historical introduc tio n.‖ *World Development*, Vol 17(9): 1319-1332. https://doi.org/10.1016/0305-750X(89)90075- 2Acemoglu, Daron, Simon Johnson, and James A. Robinson. (2001) "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91, no. 5 (December 2001): 1369- 1401
   b. Alesina, Alberto and Dani Rodrik. (1994) -Distributive Politics and Economic Growth.‖ *Quarterly Journal of*
   c. *Economics*, Vol. 109, No. 2 (May, 1994), pp. 465-490
   d. Acemoglu, Daron and Simon Johnson and James Robinson, ―Reversal of fortune: Geography and institutions in the making of the modern world income distribution,‖ *Quarterly Journal of Economics*, Vol. 117(4): 1231-1294.
   http://www.gdsnet.org/UnderstandingProsperityandPoverty.pdfSubramanian, A. 2007. -The evolution of institutions in India and its relationship with economic growth.‖ *Oxford Review of Economic Policy*, 23(2): 196-220

11. *Human Capital and Economic Growth*
a. Mankiw, G., D.Romer, D.Weil, . 1992. -A Contribution to the Theory of Economic Growth.‖ *Quarterly Journal of Macroeconomics*, 107 (May) :407-437.
b. Benhabib, Jess and Mark M. Spiegel. 1994. -The Role of Human Capital in Economic Development: Evidence from Aggregate Cross-Country Data.‖ *Journal of Monetary Economics*, Vol. 34(2):143-173.
c. Hanushek, Eric and Dennis Kimko (2000) -Schooling, Labor-Force Quality, and the Growth of Nations.‖ *American Economic Review*, Vol. 90 (5) :1184-1208.
d. Krueger, Alan B. and Mikael Lindahl. 2001. "Education for Growth: Why and For Whom?" *Journal of Economic Literature*, Vol. 39(4):1101-1136.

e. Moretti, Enrico. 2004. ―Workers' Education, Spillovers and Productivity: Evidence from Plant-Level Production Functions.‖ *American Economic Review*, Vol. 94(3):656-690.

f. Ghate Chetan, Gerhard Glommand John T. Stone III. 2015 "Public and Private Expenditures on Human Capital Accumulation in India." *WIDER Working PaperSeries 024*,World Institute for Development Economic Research (UNU-WIDER).

g. Rao, B. Bhaskara and Krishna Chaitanya Vadlamannati. 2010. ―The level and growth effects of human capital in India.‖ *Applied Economics Letters*, 18(1): 59-62, DOI: 10.1080/13504850903427146

h. Schündeln, Matthias and John Playforth. 2014. "Private versus social returns to human capital: Educationand economic growth in India." *European Economic Review*, vol. 66(C): 266-283.

12. *Environment and Economic Growth*

a. DR - Ch 1.8

b. Brock, William A. andM. Scott Taylor. 2005. "Economic Growth and the Environment: A Review ofTheory and Empirics," In *Handbook of Economic Growth* Edited by Philippe Aghion& Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 1: 1749-1821. Amsterdam: North Holland.

c. William Brock and M. Taylor. 2010. "The Green Solow model," *Journal of Economic Growth*, vol. 15(2):127-153.

d. Bovenberg, A.L., and S. Smulders. 1995.―Environmental Qualityand Pollution Augmenting Technologic a l Change in a Two Sector Endoge nous Growth Model. ‖*Journal of Public Economic s*, Vol 57(3): 369-391.

e. Grossman G.M, and A. B. Krueger. 1995. "Economic Growth and the Environment." *Quarterly Journal of Economics*, vol. 110(2): 353-377.

f. John, A. and R. Pecchenino. 1994. "An Overlapping Generations Model of Growth and the Environment." *The Economic Journal*, 104(427): 1393-1410.

Additional information (if any):

- Suggested journals—*Journal of Economic Perspectives*, *Journal of Development Economics*, *Journal of Economic Growth*, *Indian Economic Review*
- Understanding of basic macroeconomic theories is desirable.

Pedagogical Approach:

- Classroom teaching
- Emphasis on solving neoclassical growth models and calibration

Student responsibilities: Attendance, feedback, discipline: as per universityrules.

Course reviewers:

1. Prof. Chetan Ghate, Indian Statistical Institute, Delhi Center, 7, S. J. S. Sansanwal Marg, New Delhi, Delhi110016
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