

Semester-V
DEPARTMENT OF ECONOMICS
Category I

(B.A. Honours in Economics in three years)

DISCIPLINE SPECIFIC CORE COURSE -13 (DSC-13): Game Theory and Strategic Interactions

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|--|---------|---------------------|----------|------------------------|-----------------------------|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Game Theory and Strategic Interactions – ECON013 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course introduces students to formal analysis of game theory and its applications on the micro-economic issues.
- Game theory will be used to analyse market power, commitment problem, coordination problem and various modern market design tools like contract and auction.

Learning outcomes

The Learning outcomes of this course are as follows:

- This course helps the students to understand strategic interactions and importance of information in strategic situations.
- The concepts and tools developed in this course will enable the students to analyse various strategic relations seen in various disciplines, like in economics, management and other social sciences.

Syllabus

UNIT I: Complete information simultaneous move game, Dominance, Nash equilibrium, Mixed strategy Nash equilibrium (9 hours)

UNIT II: Complete information extensive form game (9 hours)
 Sequential rationality and subgame perfection

UNIT III: Topics from Industrial Organization (9 hours)

UNIT IV: Incomplete information (9 hours)
 Bayes Nash equilibrium, Auction, Moral Hazard, Contract

UNIT V: Communicating information (9 hours)
 Perfect Bayesian equilibrium, Job market signaling and reputation

Recommended readings

- Watson, J. (2002). *Strategy: an introduction to game theory*. New York: WW Norton.
- Muñoz-García, F. (2017). *Advanced microeconomic theory: an intuitive approach with Final Examinationples*. MIT Press.
- Muñoz-García, F. (2017). *Practice Exercises for Advanced Microeconomic Theory*. MIT Press.
- Dunaway, E., Strandholm, J. C., Espinola-Arredondo, A., & Muñoz-García, F. (2020). *Practice Exercises for Intermediate Microeconomic Theory*. MIT Press.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE -14 (DSC-14): Economic Growth and Business Cycles

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|--|----------|---------------------|----------|---------------------|------------------------------------|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Economic Growth and Business Cycles – ECON014 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course introduces the students to the models of economic growth and business cycles.
- The literature on the differences in the growth rates across economies is discussed.
- Further, the student is exposed to the preliminaries of macroeconomic modelling through different growth models.
- It introduces business cycles through the Real Business Cycle and the New Keynesian approaches.

Learning outcomes

The Learning outcomes of this course are as follows:

- The student would understand the basic drivers of economic growth that are developed through the different approaches using exogenous, semi-endogenous and endogenous models.
- The student will be able to apprise and analyse better the business cycles and familiarise with the debates between the schools of macroeconomic thoughts like Real Business Cycles and New Keynesian Economics.

Syllabus

UNIT I: Introduction to Economic Growth (15 hours)

Introduction to economic growth, data on economic growth, stylised facts of economic growth. Economic growth and economic development, economic growth and income difference, absolute and conditional convergence.

UNIT II: Models of Economic Growth (15 hours)

Solow model and the steady state. Solow model with technology, growth accounting, Economics of ideas and innovation, Romer model, Growth through creative destruction, Growth and technology transfer, institutions, Simple endogenous growth model.

UNIT III: Business Cycles (15 hours)

Real business cycle model, productivity shocks and business cycle fluctuations, New Keynesian models, new Keynesian Short-run AS Phillips curve and dynamics IS curve. Comparison between business cycle models. Introduction to dynamic general equilibrium models.

Recommended readings

- Jones, Charles I and Vollrath, Dietrich (2013) *Introduction to Economic Growth*.
- W. W. Norton & Co.
- Aghion, Philippe and Howitt, Peter (2010) *The Economics of Growth*. Prentice Hall. Eastern Economy Edition.
- Mishkin, Frederic S (2017) *Macroeconomics: Policy and Practice*. Pearson.

- Jones, Charles I (2018) *Macroeconomics*. W W Norton & Co.
- Sorenson, Peter B and Whitta-Jacobson, Hans Jorgen (2010) *Introducing Advanced Macroeconomics: Growth and Business Cycles*. McGraw Hill Education
- Barro, R, Chu, A and Cozzie, G (2017), *Intermediate macroeconomics*, First Edn. Cengage Learning.
- Weil, David N (2014) *Economic Growth*. Routledge.
- Gordon, Robert J (2015) *Macroeconomics*. Pearson

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DISCIPLINE SPECIFIC CORE COURSE -15 (DSC-15): Introductory Development Economics

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|---|----------|---------------------|----------|---------------------|------------------------------------|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Introductory Development Economics – ECON015 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course discusses the basic concept of growth and further links it up with alternative conceptions of development.
- It then proceeds to examine the aspects of poverty and inequality, not just in terms of income and wealth, but in terms of capabilities too.
- The axiomatic basis for inequality measurement is used to develop measures of inequality and poverty.
- It further explores the connections between growth and inequality.
- The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Learning outcomes

The Learning outcomes of this course are as follows:

- The students would distinguish between growth and development and get an idea about the factors affecting the level of development as well as the process of economic development.
- Further, they comprehend and analyse various concepts and measures of underdevelopment including poverty and inequality.

Syllabus

UNIT I: Introducing Economic Development: Global Perspective (12 hours)

Conceptions of Economic Growth and Development; Concepts of economic growth and linking it up with alternative measures of development, including human development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

UNIT II: Theories of Economic Development (12 hours)

Classic Theories of Economic Growth and Development - four approaches (linear- stages theories, structural change models, international dependence, neoclassical

UNIT III: The Strategy of Economic Development: Institutional Pathways (9 hours)

Balanced and Unbalanced growth, interlinkages, big-push and the role of markets and state, alternative institutional trajectories and their relationship with economic performance

UNIT IV: Poverty and Inequality (12 hours)

Definitions, Measures and Mechanisms, Inequality axioms and principles; a comparison of commonly used diagrammatic and mathematical inequality measures, their deficiencies and usage; connections between

inequality and development; inequality trends at international level; conceptualisation of the poverty lines at domestic and international levels; poverty measurement; characteristics of the poor; capability approach to poverty; mechanisms that generate poverty traps and path dependence of growth processes.

Recommended readings

- Partha Dasgupa (2007), *Economics: A Very Short Introduction*, (AVSI), Oxford University Press.
- Perkins, D. H., Radelet, S. C., Lindauer, D. L., & Block, S. A. (2013). *Economics of Development*. 7th Edition, New York: WW Norton & Company.
- Todaro, M. P., & Smith, S. C. (2020). *Economic Development*. Pearson UK.
- Elinor Ostrom (1990), *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.
- Gustav Ranis et.al, Economic Growth and Human Development (2000), *World Development* Vol. 28, No. 2, Elsevier Science Ltd.
- Pranab Bardhan (2010), *Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India*, OUP.
- Thomas Dietz, Elinor Ostrom and Paul C. Stern, 'The Struggle to Govern the Commons', *Science*, vol. 302, No. 5652 (Dec. 12, 2003), pp. 1907-1912.
- Mancur Olson, Jr. (1996), 'Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor', *Journal of Economic Perspectives*, vol. 10, no. 2, pp 3-24.
- Albert O. Hirschman, *Rival Views of Market Society and Other Essays*, Ch. 3: 'Linkages in Economic Development'.
- Nurkse, Ragnar (1961). *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford University Press. Chapter 3.
- Rodenstein Rodan, PN (1943) Problems of Industrialization of eastern and south eastern Europe, *Economic Journal*, vol LIII, p 202-11.
- Dani Rodrik (2009), *One Economics, Many Recipes: Globalization, Institutions and Economic Growth*, Princeton University Press.
- Andre Shleifer and Robert W. Vishny (1993), 'Corruption', *Quarterly Journal of Economics*, 108(3), pp 599-617.

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Category II

Economics Courses for Undergraduate Programme of study with Economics as one of the Core Disciplines (B.A. Programmes with Economics as Major discipline)

DISCIPLINE SPECIFIC CORE COURSE -9 (DSC-9): Intermediate Microeconomics II: Market, Government and Welfare

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|--|----------|---------------------|----------|------------------------|------------------------------------|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Intermediate Microeconomics II: Market, Government and Welfare -ECON010 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course introduces students to analysis of multi-commodity markets.
- The efficiency results, known as welfare theorems, are central to understanding of market economy.
- The course also discusses inefficiencies coming from market concentration and externalities.
- It further would discuss the role of government to deal with the inefficiencies and resultant welfare outcomes.

Learning outcomes

The Learning outcomes of this course are as follows:

- This course helps the students to understand efficiency of markets and the environment where the standard market mechanism fails to generate the desirable outcomes in simple general equilibrium settings.
- The issues of market imperfection and market failures lead students to the economics of policy design. The students will learn the efficacy of government interventions for the improved welfare.

Syllabus

UNIT I: Monopoly (9 hours)

Monopoly pricing, Inefficiency, Price discrimination, Regulation

UNIT II: General equilibrium (9 hours)

Exchange economy, Robinson Crusoe economy, Pareto optimality, Welfare theorems, Welfare and social choice

UNIT III: Models of Monopolistic Competition (9 hours)

Firms with differentiated products, mark-up, short-run and long-run equilibrium

UNIT IV: Externalities (9 hours)

Market inefficiency under externalities, Pigou tax, Coase theorem, Market creation and other solutions

UNIT V: Public Good (9 hours)

Inefficiency of market equilibrium, Optimal public good provision, Free rider problem, Lindahl taxes

Recommended readings

- Serrano, Roberto and Feldman, Alan (2012), *A short course in intermediate Microeconomics with Calculus*, Cambridge University Press
- Espinola-Arredondo, Ana and Munoz-Garaia, Felix (2020), *Intermediate Microeconomic Theory*, MIT Press
- Munoz-Garaia, Felix (2017) *Practice Exercises for Advanced Microeconomic Theory*, MIT Press.
- Dunaway, Eric; Strandholm, John C., Espinola-Arredondo, Ana and Munoz-Garcia, Felix (2020) *Practice Exercises for Intermediate Microeconomic Theory*, MIT press

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DISCIPLINE SPECIFIC CORE COURSE -10 (DSC-10): Introductory Development Economics

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|---|----------|---------------------|----------|---------------------|------------------------------------|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Introductory Development Economics – ECON015 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course discusses the basic concept of growth and further links it up with alternative conceptions of development.
- It then proceeds to examine the aspects of poverty and inequality, not just in terms of income and wealth, but in terms of capabilities too.
- The axiomatic basis for inequality measurement is used to develop measures of inequality and poverty.
- It further explores the connections between growth and inequality.
- The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Learning outcomes

The Learning outcomes of this course are as follows:

- The students would distinguish between growth and development and get an idea about the factors affecting the level of development as well as the process of economic development.
- Further, they comprehend and analyse various concepts and measures of underdevelopment including poverty and inequality.

Syllabus

UNIT I: Introducing Economic Development: Global Perspective (12 hours)

Conceptions of Economic Growth and Development; Concepts of economic growth and linking it up with alternative measures of development, including human development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

UNIT II: Theories of Economic Development (12 hours)

Classic Theories of Economic Growth and Development - four approaches (linear- stages theories, structural change models, international dependence, neoclassical

UNIT III: The Strategy of Economic Development: Institutional Pathways (9 hours)

Balanced and Unbalanced growth, interlinkages, big-push and the role of markets and state, alternative institutional trajectories and their relationship with economic performance

UNIT IV: Poverty and Inequality (12 hours)

Definitions, Measures and Mechanisms, Inequality axioms and principles; a comparison of commonly used diagrammatic and mathematical inequality measures, their deficiencies and usage; connections between

inequality and development; inequality trends at international level; conceptualisation of the poverty lines at domestic and international levels; poverty measurement; characteristics of the poor; capability approach to poverty; mechanisms that generate poverty traps and path dependence of growth processes.

Recommended readings

- Partha Dasgupa (2007), *Economics: A Very Short Introduction*, (AVSI), Oxford University Press.
- Perkins, D. H., Radelet, S. C., Lindauer, D. L., & Block, S. A. (2013). *Economics of Development*. 7th Edition, New York: WW Norton & Company.
- Todaro, M. P., & Smith, S. C. (2020). *Economic Development*. Pearson UK.
- Elinor Ostrom (1990), *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.
- Gustav Ranis et.al, Economic Growth and Human Development (2000), *World Development* Vol. 28, No. 2, Elsevier Science Ltd.
- Pranab Bardhan (2010), *Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India*, OUP.
- Thomas Dietz, Elinor Ostrom and Paul C. Stern, 'The Struggle to Govern the Commons', *Science*, vol. 302, No. 5652 (Dec. 12, 2003), pp. 1907-1912.
- Mancur Olson, Jr. (1996), 'Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor', *Journal of Economic Perspectives*, vol. 10, no. 2, pp 3-24.
- Albert O. Hirschman, *Rival Views of Market Society and Other Essays*, Ch. 3: 'Linkages in Economic Development'.
- Nurkse, Ragnar (1961). *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford University Press. Chapter 3.
- Rodenstein Rodan, PN (1943) Problems of Industrialization of eastern and south eastern Europe, *Economic Journal*, vol LIII, p 202-11.
- Dani Rodrik (2009), *One Economics, Many Recipes: Globalization, Institutions and Economic Growth*, Princeton University Press.
- Andre Shleifer and Robert W. Vishny (1993), 'Corruption', *Quarterly Journal of Economics*, 108(3), pp 599-617.

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Category III

Economics Courses for Undergraduate Programme of study with Economics as one of the Core Disciplines (B.A. Programmes with Economics as non-Major or Minor discipline)

DISCIPLINE SPECIFIC CORE COURSE -5 (DSC-5): Introductory Development Economics

| Course title & Code | Credits | Duration (per week) | | | Eligibility Criteria | Prerequisite |
|---|----------|---------------------|----------|------------------------|--|--------------|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Introductory Development Economics – ECON015 | 4 | 3 | 1 | 0 | Class 12th with Mathematics | NIL |

Learning Objectives

The Learning Objectives of this course are as follows:

- This course discusses the basic concept of growth and further links it up with alternative conceptions of development.
- It then proceeds to examine the aspects of poverty and inequality, not just in terms of income and wealth, but in terms of capabilities too.
- The axiomatic basis for inequality measurement is used to develop measures of inequality and poverty.
- It further explores the connections between growth and inequality.
- The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Learning outcomes

The Learning outcomes of this course are as follows:

- The students would distinguish between growth and development and get an idea about the factors affecting the level of development as well as the process of economic development.
- Further, they comprehend and analyse various concepts and measures of underdevelopment including poverty and inequality.

Syllabus

UNIT I: Introducing Economic Development: Global Perspective (12 hours)

Conceptions of Economic Growth and Development; Concepts of economic growth and linking it up with alternative measures of development, including human development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

UNIT II: Theories of Economic Development (12 hours)

Classic Theories of Economic Growth and Development - four approaches (linear- stages theories, structural change models, international dependence, neoclassical

UNIT III: The Strategy of Economic Development: Institutional Pathways (9 hours)

Balanced and Unbalanced growth, interlinkages, big-push and the role of markets and state, alternative institutional trajectories and their relationship with economic performance

UNIT IV: Poverty and Inequality (12 hours)

Definitions, Measures and Mechanisms, Inequality axioms and principles; a comparison of commonly used diagrammatic and mathematical inequality measures, their deficiencies and usage; connections between inequality and development; inequality trends at international level; conceptualisation of the poverty lines at domestic and international levels; poverty measurement; characteristics of the poor; capability approach to poverty; mechanisms that generate poverty traps and path dependence of growth processes.

Recommended readings

- Partha Dasgupta (2007), *Economics: A Very Short Introduction*, (AVSI), Oxford University Press.
- Perkins, D. H., Radelet, S. C., Lindauer, D. L., & Block, S. A. (2013). *Economics of Development*. 7th Edition, New York: WW Norton & Company.
- Todaro, M. P., & Smith, S. C. (2020). *Economic Development*. Pearson UK.
- Elinor Ostrom (1990), *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.
- Gustav Ranis et.al, Economic Growth and Human Development (2000), *World Development* Vol. 28, No. 2, Elsevier Science Ltd.
- Pranab Bardhan (2010), *Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India*, OUP.
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- Mancur Olson, Jr. (1996), 'Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor', *Journal of Economic Perspectives*, vol. 10, no. 2, pp 3-24.
- Albert O. Hirschman, *Rival Views of Market Society and Other Essays*, Ch. 3: 'Linkages in Economic Development'
- Nurkse, Ragnar (1961). *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford University Press. Chapter 3.
- Rodenstein Rodan, PN (1943) Problems of Industrialization of eastern and south eastern Europe, *Economic Journal*, vol LIII, p 202-11.
- Dani Rodrik (2009), *One Economics, Many Recipes: Globalization, Institutions and Economic Growth*, Princeton University Press.
- Andre Shleifer and Robert W. Vishny (1993), 'Corruption', *Quarterly Journal of Economics*, 108(3), pp 599-617.

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