



UNDERGRADUATE PROGRAMMES IN ECONOMICS

**To be offered in Department of Economics,
Pondicherry University and Affiliated Colleges**

COURSE CURRICULUM AND REGULATIONS

Academic Year 2023-24 Onwards

**Department of Economics
School of Management
Pondicherry University**

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The University

Pondicherry University (A Central University) was established by an Act of Parliament in October 1985. The Campus is spread over 780 acres of land rolling down to the sea beach - the Bay of Bengal. The landscape is dotted by sprawling lawns, well nurtured gardens, picturesque road shapes, and lush green belt with eco-forest; an ecologist's delight indeed! The tranquil setting makes Pondicherry University campus a unique one with exquisite natural beauty and serene sea shore that captures viewers' imagination and provides an ideal atmosphere for learning. True to the national character, Pondicherry University has emerged as a choice destination for students not only from across the country but from abroad as well. The University is a member of the Association of Commonwealth Universities and signed MoU with several foreign Universities/Institutions. It has campuses in Karaikal, Mahe, and Andaman & Nicobar and a constituent college, i.e. Community College in Puducherry. Pondicherry University has several affiliated colleges in Puducherry, Andaman & Nicobar, and Lakshadweep.

School of Management

School of Management is the oldest school in the University and consists of six departments in the main campus at Pondicherry that offer postgraduate and doctoral programmes in the areas of Management, Economics, Commerce, International Business, Banking and technology and Tourism studies. The programmes offered by the departments of this school are one of the most sought after due to their rigour, industry interface and good track record of placements.

Department of Economics

Department of Economics is one of the founding departments in the Pondicherry University, established on 15th December 1986. The Department offers post graduate and research programmes that enable the students to acquire both the theoretical knowledge and technical skills. In the recent times, the Department has emerged as one of the leading centres which imparts training in the field of applied econometrics and conducts regular programmes and workshops for researchers and policy makers. The student and faculty composition in the Department is drawn from the length and breadth of the country. The Department provides ample scope for faculty members and students to interact with leading academicians from the county and also from abroad as they are regularly invited through various training programmes, conferences, seminars and workshops conducted in the Department. There are number of projects undertaken by the faculty members funded by Reserve Bank of India, various Ministries of Govt. of Puducherry & Govt. of India, University Grants Commission, etc. Besides, faculty members have published research papers in reputed journals.

Vision & Mission

The vision of the Department is to place it as an eminent centre for learning in Economics in the country with balanced emphasis on quantitative economics and social-developmental aspects. The mission of the Department of Economics is to become an agent for producing well trained economists by providing highest quality education covering all broad aspects and areas in

Economics education and research. A well-structured syllabus with adequate coverage of theoretical and empirical facets will strive to equip our students to take up responsibilities and deliver effectively in academics, corporates and public policy leadership roles in the country and elsewhere.

Table 1: Faculty Profile of the Department, School of Management, Pondicherry University

Faculty	Specialization
Dr. Prasant Kumar Panda Professor & Head	Public Finance and Policy, Growth Modelling, Health Economics, Applied Statistics, Applied Econometrics
Prof. M. Ramachandran Professor	Monetary Economics, Open-economy, Macroeconomics, Applied Econometrics
Prof. Amaresh Samantaraya Professor	Money and Banking, Applied Econometrics, Indian Economy
Prof. V. Nirmala Professor	Agricultural Economics, Labour Economics, Gender Studies
Dr. A. Sankaran Associate Professor	Industrial Economics, Entrepreneurship Development, International Economics
Dr. V. Sivasankar Associate Professor	Development Economics, Labour Economics, Environment Economics
Dr. R Sendhil Associate Professor	Agricultural Economics, Agricultural Policy
Dr. H. Yasmeen Sultana Assistant Professor	Microfinance, Welfare Economics, Gender Studies, Islamic Economics, Health Economics, and Behavioural Economics
Dr. R Lusome Assistant Professor	Economic Demography, Health Economics, Applied Statistics
Dr. C. Jerome Samraj Assistant Professor	Land revenue policies, Colonial and Post-Colonial Development, Agrarian studies, Multi dimensional manifestations of Caste, Poverty, Inequality, Social Exclusion, and Discrimination, Refugee studies, Impact analysis of Socio-economic and educational policies, Urbanisation, Industrialisation, Environmental Economics, and Microfinance
Dr. Hersch Sahay Assistant Professor	Macroeconomics, Applied Econometrics, Quantitative Economics, International Economics
Dr. N. Kubendran Assistant Professor	International Economics, Macroeconomics, Money and Banking

National Education Policy 2020

National Education Policy (NEP) 2020 endeavours to provide quality education to students at all levels including those enrolled for higher education (Level 5 and above). Its main aim is to develop individuals who are thoughtful, well-rounded and creative by imparting them holistic and multidisciplinary education. More importantly, NEP 2020 offers students the freedom to shape their studies. Taking into consideration the main recommendations of NEP 2020, University Grants Commission (UGC) has developed a new ‘Curriculum and Credit Framework for Undergraduate Programmes’ (CCFUP) by revising the existing Choice Based Credit System (CBCS). This framework was published in December 2022 integrating the ethos of NEP 2020 to allow for multiple entry and exit, flexible degree options thereby facilitating students to pursue their career path by choosing the subject/field of their interest.

The guidelines for Undergraduate programme in Economics to be offered by Pondicherry University have been framed in line with NEP regulations framed by Pondicherry University for undergraduate programmes based on CCFUP and can be accessed by following the link: [Curriculum and Credit Framework for Undergraduate Programmes](#). CCFUP outlines an indicative framework for Higher Education Institutions (HEIs) to develop undergraduate programmes but also provides necessary flexibility to design programmes to suite the needs of students and HEIs. Hence, this document has been prepared by the Department of Economics, Pondicherry University for undergraduate programmes in economics to be offered by Pondicherry University adhering to minimum requirements outlined in CCFUP with suitable modifications as necessary and approved by the competent Board of Studies.

Definitions

- a. **Semester:** A semester comprises of approximately 90 working days and an academic year is divided into two semesters.
- b. **Summer Term:** A summer term is for four to six weeks during summer vacation. Internship/apprenticeship/work-based vocational education and training can be carried out during the summer term, especially by students who wish to exit after two semesters or four semesters of study.
- c. **Credit:** A credit is a unit by which the coursework is measured. It determines the number of hours of instruction required per week over the duration of a semester which will be approximately minimum 15 weeks. Hence, a 4 credit lecture course will have 4 hours of instruction per week.

Type of Course and Number of Credits

1. **Major Discipline Courses:** Major discipline is the discipline or subject of main focus and the degree will be awarded in that discipline. For students enrolled in Department of Economics, courses related to Economics marked as ‘Discipline-Specific Course – Core’ mentioned in Table 3 are considered as Major Discipline Courses. All Major Discipline Courses will be for 4 credits.

Change of Major: Students can opt for a change of major within the broad discipline (Natural and Physical Sciences, Mathematical, Statistics, and Computational Sciences, Library, Information and Media Sciences, Commerce and Management, and Humanities and Social Sciences) at the end of the first year. additional 10% seats over and above the sanctioned strength to accommodate the request for a change of major. Any unfilled or vacant seats may be filled with those seeking a change of Major. Preference will be given to those who have got highest CGPA with no arrears in the first year.

- 2. Minor Discipline Courses:** These courses help a student to gain a broader understanding beyond the major discipline. All Discipline-Specific Minor Courses will be for 4 credits. Students who take a sufficient number of courses in a discipline or an interdisciplinary area of study other than the chosen major will qualify for a minor in that discipline or in the chosen interdisciplinary area of study. 50% of the total credits from minors must be secured in the relevant subject/discipline (Economics) and another 50% of the total credits from a minor can be earned from any discipline as per students' choice. Student can declare the choice of the minor and vocational stream at the end of the second semester, after exploring various courses.
- 3. Other Courses:** All courses under the Interdisciplinary / Multidisciplinary, Ability Enhancement (language), and Skill Enhancement categories will be of 3-credits.

Multidisciplinary Courses: All UG students are required to undergo 3 introductory-level courses relating to any of the broad disciplines relating to Natural and Physical Sciences / Mathematics, Statistics, and Computer Applications / Library, Information, and Media Sciences / Commerce and Management / Humanities and Social Sciences. These courses are intended to broaden the intellectual experience and form part of liberal arts and science education. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) in the proposed major and minor stream under this category.

Ability Enhancement Courses (Language): Students are required to achieve competency in a Modern Indian Language (MIL) and in the English language with special emphasis on language and communication skills.

Vocational Education and Training: Vocational Education and Training will form an integral part of the undergraduate programme to impart skills along with theory and practical. A minimum of 12 credits will be allotted to the 'Minor' stream relating to Vocational Education and Training and these can be related to the major or minor discipline or choice of the student. These courses will be useful to find a job for those students who exit before completing the programme.

- 4. Common Value-Added Courses:** Courses under Value Added, Summer Internship / Apprenticeship / Community outreach activities, etc., will be of 2-credits.

Value-Added Courses: These courses will be offered at the university level commonly for all students registered for various undergraduate programmes. These courses include Understanding India, Environmental Science, Health & Well-being / Yoga, Digital & Technological Solutions or any other course offered by the university from time to time. The credit for each of these courses will be in accordance with the university guidelines. One or two courses of these will be offered in each semester upto 2nd semester.

Summer Internship: All students will also undergo internships / Apprenticeships in a firm, industry, or organization or Training in labs with faculty and researchers in their own or other HEIs/research institutions / industry / government bodies during the summer term. Students who wish to exit after the first two semesters will undergo a 4-credit work-based learning/internship during the summer term in order to get a UG Certificate.

5. **Research Project / Dissertation:** Students choosing a 4-Year Bachelor's degree (Honours with Research) are required to take up research projects under the guidance of a faculty member. The students are expected to complete the Research Project in the eighth semester. The research outcomes of their project work may be published in peer-reviewed journals or may be presented in conferences /seminars or may be patented.

Intake for B.A. (Honours) Economics

- a. Department of Economics, Pondicherry University– 40 students
- b. The intake for affiliated colleges will be decided by the respective colleges based on the approval from Pondicherry University.

Eligibility

Senior Secondary School Leaving Certificate or Higher Secondary (12th Grade) Certificate obtained after successful completion of Grade 12 or equivalent stage of education corresponding to Level-4 from board recognised by UGC or Government of India.

Undergraduate Programmes

- a. **Undergraduate Certificate in Economics:** Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a UG certificate if, in addition, they complete one vocational course of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.
- b. **Undergraduate Diploma in Economics:** Students who opt to exit after completion of the second year and have secured 84 credits will be awarded the UG diploma if, in addition, they complete one vocational course of 4 credits during the summer vacation of the second year. These students are allowed to re-enter within a period of three years and complete the degree programme within the maximum period of seven years.
- c. **3-year Bachelor of Arts (B.A.) Economics:** Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 120 credits and satisfying the minimum credit requirement as given in Table 2.

- d. **4-year B.A. (Honours) Economics:** A four-year UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme with 160 credits and have satisfied the credit requirements as given Table 2.
- e. **4-year B.A. (Honours with Research) Economics:** Students who secure a CGPA of 7.5 and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University/College. The research project/dissertation will be in the major discipline. The students who secure 160 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

Infrastructure Requirement: The Departments offering a 4-year UG Degree (Honours with Research) must have the required infrastructure such as the library, access to journals, computer lab and software, laboratory facilities to carry out experimental research work, and at least two permanent faculty members who are recognized as Ph.D. supervisors. The Departments already recognized for conducting the Ph.D. programme may conduct a 4-year UG Degree (Honours with Research) without obtaining any approval from the affiliating University.

Duration of the Programme

- a. The duration of the UG programme is 4 years or 8 semesters. Students who desire to undergo a 3-year UG Programme will be allowed to exit after completion of the 3rd year. If a student wants to leave after the completion of the first or second year, the student will be given a UG Certificate or UG Diploma, respectively, provided they secure the prescribed number of credits (as given in Table 2). Students who exit with a UG certificate or UG diploma are permitted to re-enter within three years and complete the degree programme.
- b. Students may be permitted to take a break from the study during the period of study but the total duration for completing the programme shall not exceed 7 years.

Minimum Credit Requirements

Table 2 provides the course-wise breakup of minimum credit requirements for B.A. Economics, B.A. (Honours) Economics and B.A. (Honours with Research) Economics programme as provided in UGC Curriculum and credit framework.

Table 2: Minimum Credit Requirements to Award Degree under Each Category prescribed by PU NEP regulation 2023 / PU NEP regulations for affiliated colleges 2023-24

S. No.	Broad Category of Course	Minimum Credit Requirement	
		3-year B.A. Economics	4-year B.A. (Honours) Economics
1	Major (Core)	60	80
2	Minor Stream	24	32
3	Multidisciplinary/Inter-disciplinary	09	09
4	Ability Enhancement Courses (AEC) [#]	08 / 12	08 / 12
5	Skill Enhancement Courses (SEC)	09	09
6	Value Added Courses common for all UG	08	08
7	Summer Internship	04 (included in Major courses of 60 credits)	04 (included in Major courses of 80 credits)
8	Community engagement and service	2 credits (1 course)	2 credits (1 course)
9	Research Project / Dissertation [*]	-	12
	Total	120 / 124	160 / 164

Note: ^{*}Compulsory for only those students who opt for B.A. (Honours with Research) Economics programme. Honours students not undertaking research will do 3 courses for 12 credits in lieu of a research project / Dissertation.

[#] AEC for affiliated colleges would be for 08 credits (4 courses of 2 credits each) and those for university department will be for 12 credits (4 courses of 3 credits each).

Undergraduate Degree Programmes with Flexible Degree Options

- a. **UG Degree Programmes with Single Major:** A student has to secure a minimum of 50% credits from the major discipline for the 3-year/4-year UG degree to be awarded a single major.
- b. **UG Degree Programmes with Single Major and Minor:** A student has to secure at least 50% of the credits earmarked for 'Minor Stream' from a particular major discipline apart from the discipline that he/she has selected as major discipline to be able to obtain a major with a minor in that particular discipline. Accordingly, for 3-year / 4-year UG Degree programme, a student must earn at least 12 credits and 16 credits respectively in a particular major discipline to be eligible to obtain a minor in that subject. For example, if a student pursuing an Economics major obtains a minimum of 12 credits from a bunch of courses in Statistics, then the student will be awarded B.A. degree in Economics with a Minor in Statistics.

Evaluation and Award of Grades

Weightage of marks: The weightage of marks between continuous Internal Assessment and End-Semester Examination shall be 40 and 60, respectively.

Passing Minimum: A student is declared to have passed a given course only when he/she secures a minimum of 40 % marks in the end-Semester Examination and an aggregate of 50 % marks (both Internal and End-Semester Examination put together). There is no minimum passing marks for the internal assessment component. This is subject to revision as per university regulation.

Internal Assessment: Internal Assessment Component of 40 marks consists of the following:

- | | | |
|----------------------------|---|-----------------|
| 1. Two Class Tests (15+15) | : | 30 marks |
| 2. Assignment/Seminar | : | 10 marks |
| Total | : | 40 marks |

However internal assessment for skill based and vocational courses can have components like practicum/ skill based test/ assessment of field report etc.

End-Semester examination Question Paper Pattern for major/ minor: The question paper pattern for each of the subjects for the End-Semester written examination shall be as given below:

Section A : FOUR (04) Short Type questions to be answered **4 x 6 = 24 marks**
out of SIX (06) questions
Each question carrying SIX (06) marks

Section B : THREE (03) Essay type questions to be answered **3 x 12 = 36 marks**
out of FIVE (05) questions
Each question carrying SIX (12) marks

Total **60 marks**

Both sections should be representative of the entire syllabus hence, must contain at least one question from each module.

However in case of skill based and vocational courses, end semester examination can have components like practicum/ skill based test/ assessment of field report etc consisting of 30 marks. For other 30 marks, test shall be conducted as per above pattern : three short type questions and one long type question. Additional options can be given to students.

Grading: Grading of the marks obtained by the students shall be made as per the norms as prescribed by the University which is subject to change from time to time.

Attendance: Each student shall obtain a minimum of 70 per cent (70%) attendance to be eligible for appearing for the End-Semester Examination details of which is prescribed by the academic regulations of the University. Concessions on minimum attendance, as per the university guidelines, if any, will be applicable.

Question pattern, composition of internal and end semester marks, examination, evaluation of courses including projects and internships, grading for affiliated colleges will be as per NEP regulation of Pondicherry University for affiliated colleges..

Course Structure

The abbreviations used for various types of courses as listed in Table 3 are:

Abbreviation	Category
DSC – C	: Discipline Specific Course – Core (Major)
DSC - MS	: Discipline Specific Course – Minor Stream
MS	: Minor Stream
MD	: Multi-disciplinary Course
AEC (L)	: Ability Enhancement Course (Language)
SEC	: Skill Enhancement Courses
VAC	: Common Value-Added Course
CES	: Community Engagement and Service

Curriculum Structure and Credit requirements for UG Programme in Economics in Pondicherry University

Table 3 provides the course-wise breakup of minimum credit requirements for B.A. Economics, B.A. (Honours) Economics and B.A. (Honours with Research) Economics programme to be offered by the Department of Economics, Pondicherry University and in affiliated colleges. .

Table 3: Course Structure for UG programme in Economics with Exit Options

	Sl. No.	Course Code	Category	Course Title	Credit
Semester I	1	ECONC111	DSC-Major -1	Microeconomics I	4
	2		MS- 1	<i>Elective offered by economics department / other departments (Level 100)</i>	4
	3		MD -1	<i>Elective offered by other departments / SWAYAM / NPTEL / MOOCs</i>	3
	4		AEC (L)	<i>Eng-I</i>	2 / 3
	5		SEC - 1	Skill-Based Elective / Vocational Elective Course	3
	6		VAC-1	<i>Vvalue added course – Understanding India</i>	2
				VAC-2	<i>Environmental Science/education</i>
Total Credits for Semester I					20 / 21
Semester II	1	ECONC121	DSC-Major -2	Macroeconomics I	4
	2		MS -2	<i>Elective offered by economics department / other departments (Level 100)</i>	4
	3		MD-2	<i>Elective offered by other departments / SWAYAM / NPTEL / MOOCs</i>	3
	4		AEC (L)	<i>MIL-1</i>	2 / 3
	5		SEC-2	Skill-Based Elective / Vocational Elective	3
	6		VAC-3	Health & Well Being / Yoga /sports/fitness	2
				VAC-4	Digital Technologies
Total Credits for Semester II					20 / 21
<p>Students who opt to exit after completion of the first year and have earned a minimum of 40 credits at affiliated colleges and 42 credits at university department will be awarded a UG certificate if, in addition, they also complete work based vocational course/internship of 4 credits during the summer vacation of the first year.</p>					

	Sl. No.	Course Code	Category	Course Title	Credit
Semester III	1	ECONC211	DSC-Major 3	Microeconomics II	4
	2	ECONC212	DSC-Major 4	Mathematical Methods for Economics	4
	3		MS 3	<i>Elective offered by economics department / other departments (Level 200 & above, vocational)</i>	4
	4		MD- 3	<i>Elective offered by other departments / SWAYAM / NPTEL / MOOCs</i>	3
	5		AEC (L)	<i>Eng-2</i>	2 / 3
	6		SEC - 3	Skill-Based Elective / Vocational Elective	3
Total Credits for Semester III					20 / 21
Semester IV	1	ECONC221	DSC-Major 5	Macroeconomics II	4
	2	ECONC222	DSC-Major 6	Statistical Methods	4
	3	ECONC223	DSC-Major 7	Environmental Economics	4
	4	ECONC224	DSC-Major 8	Public Finance	4
	5		MS- 4	<i>Elective offered by economics department / other departments (Level 200 & above)- Vocational</i>	4
	6		AEC (L)	<i>MIL-2</i>	2 / 3
	7	ECONR001	CES	Community Engagement and Service (Generating solutions to real life problems)	2
Total Credits for Semester IV					24 / 25
<p>Students who opt to exit after completion of the second year and have earned a minimum of 84 credits at affiliated colleges and 88 credits at university departments will be awarded the UG diploma if, in addition, they complete work based vocational course/internship of 4 credits during the summer vacation of the second year.</p> <p>Note: Summer Internship could be initiated during holidays and continued to the Vth semester</p>					
Semester V	1	ECONC311	DSC-Major 9	Introduction to International Economics	4
	2	ECONC312	DSC-Major 10	Economics of Development	4
	3	ECONC313	DSC-Major 11	Basic Econometrics	4
	4	ECONC314	DSC-Major 12	Introduction to Indian Economy	4
	5		DSC-MS 5	<i>Elective offered by economics department</i>	4

				<i>(Level 200 & above), Vocational</i>	
	6	ECONV311	Major-13: Internship	Internship	4
Total Credits for Semester V					24
Semester VI	1	ECONC321	DSC-Major 14	Labour Economics	4
	2	ECONC322	DSC-Major 15	Industrial Economics	4
	3	ECONC323	DSC-Major16	Agricultural Economics	4
	4	ECONC324	DSC-Major17	Monetary Economics	4
	5		DSC-MS 6	<i>Elective offered by economics department (Level 200 & above)</i>	4
Total Credits for Semester VI					20
Students who want to undertake 3-year UG programme will be awarded B.A. in Economics upon securing 128 credits for affiliated colleges and 132 credits for university department.					128 / 132
Semester VII	Sl. No.	Course Code	Category	Course Title	Credit
	1	ECONC411	DSC-Major 18	History of Economic Thought	4
	2	ECONC412	DSC-Major 19	International Trade and Finance	4
	3	ECONC413	DSC-Major 20	Research Methodology	4
	4		DSC-MS 7	<i>Elective offered by economics department (Level 300 & above)</i>	4
	5		DSC-MS 8	<i>Elective offered by economics department (Level 300 & above)</i>	4
Total Credits for Semester VII					20
Semester VIII	1	ECONC421	DSC-major 21	Theories of Economic Growth	4
	2	ECONC422	DSC-Major 22	Indian Economy: Issues and Policies	4
	3		DSC-MS 9	Students can choose 3 minor papers of Level 300 & above for 12 credits (3 courses x 4 credit = 12 credits) for B.A. (Hons.) Economics OR undertake a research project / dissertation for 12 credits for B.A. (Hons with research) Economics	12
	4		DSC-MS 10		
			DSC-MS 11		
5					
Total Credits for Semester VIII					20
Students who score CGPA of 7.5 or above at the end of 6th semester can opt for research and do a dissertation / research project in 4th year. These students will be					168 /

awarded B.A. Honours with Research in Economics provided they earn a minimum of 168 credits at affiliated colleges and 172 credits at university including 12 credits from a research project/dissertation.

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Students with CGPA less than 7.5 at the end of 6th semester cannot opt for research and instead they will pursue three minor electives of level 300 & above equivalent of 12 credits from department. These students will be awarded B.A. Honours in Economics at the end of 4th year.

Note:

1. AEC for affiliated colleges would be for 08 credits (4 courses of 2 credits each) and those for university department will be for 12 credits (4 courses of 3 credits each).
2. The teaching hours for each course for affiliated colleges will be as per the NEP regulations of Pondicherry University for affiliated colleges.
3. Award of certificate/diploma/degree and the nomenclature for each of them for affiliated colleges will be governed by the NEP regulations of Pondicherry University for affiliated colleges and changes in the same from time to time.
4. If there are any discrepancies in credit hours for the courses such as AEC, VAC etc. as decided by the university in a particular semester, such credit hours will be compensated by offering additional minor elective papers, so that the total credit in a particular semester or overall will not be affected.
5. Multiple entry and exit of students during the programme will be governed by University regulations for the same.
6. Anything not contained in these guidelines/regulations, any discrepancies/ambiguity or issues for smooth running of the programme will be put forward to university authority for approval.

Minor courses offered by the Department of Economics

Level 100 (1st Year UG)

1. ECONM101: Agricultural Finance and Project Management
2. ECONM102: Economics of Social Sector
3. ECONM103: Indian Financial Institutions and Markets
4. ECONM104: Regional Economics
5. ECONM105: Society and Economy

Level 200

1. ECONM201: Agricultural Development and Policy Analysis
2. ECONM202: Economics of Banking and Regulations
3. ECONM203: Economics of Finance and Insurance
4. ECONM204: Economics of Financial Markets
5. ECONM205: Economics of Marketing
6. ECONM206: Economics of Microfinance
7. ECONM207: Globalisation and Development

8. ECONM208: Population Studies
9. ECONM209: Rural Economics

Level 300

1. ECONM301: Agricultural Marketing and Price Analysis
2. ECONM302: Banking Operations and Management in India
3. ECONM303: Behavioural Economics
4. ECONM304: Financial Derivatives and Corporate Finance
5. ECONM305: Health Economics
6. ECONM306: Introduction to Data Analysis using R
7. ECONM307: Migration and Development
8. ECONM308: Multivariate Statistics
9. ECONM309: Qualitative Research Methodology

Level 400

1. ECONM401: Advanced Econometrics
2. ECONM402: Advanced Mathematical Methods for Economics
3. ECONM403: Advanced Microeconomics
4. ECONM404: Advanced Macroeconomics
5. ECONM405: Advanced Statistical Methods
6. ECONM406: Agricultural Production Economics
7. ECONM407: Behavioral Finance
8. ECONM408: Economics of Aging
9. ECONM409: Economics of Indian Social Institutions – I
10. ECONM410: Economics of Indian Social Institutions – II
11. ECONM411: Game Theory and Application
12. ECONM412: Gender Studies
13. ECONM413: International Finance
14. ECONM414: Issues in Indian Public Finance
15. ECONM415: Optimization Techniques
16. ECONM416: Public Economics
17. ECONM417: Risk Management - Theories and Practice
18. ECONM418: Time Series Econometrics
19. ECONM419: Urban Economics

Dissertation

1. ECONM400: Dissertation (12 credits)

Skill-Based/Vocational Electives (offered from 1st to 3rd semester)

1. ECONV001: Data Analysis & Visualization using MS Excel
2. ECONV002: Economics of Entrepreneurship
3. ECONV003: Fundamentals of Entrepreneurship and Project Development

4. ECONV004: Human Resource Management
5. ECONV005: Introduction to Statistical Software for Social Sciences
6. ECONV006: Skills & Ethics on Field Survey
7. ECONV007: Software for Employability

Interdisciplinary/Multidisciplinary Minor (offered for students of other departments under stream Social Sciences)

1. ECONI001: Basic Economic Concepts and Measurement
2. ECONI002: Indian Economy and Development
3. ECONI003: Understanding Economics

Community Engagement and Service

1. ECONR001: Community Engagement and Service

Core Courses

SEMESTER I

ECONC111: MICROECONOMICS-I

Credit 4

Module 1: Consumer Behaviour Analysis

Utility analysis, cardinal vs ordinal approach – indifference curve, , budget constraint and consumer equilibrium, interior and corner solutions, derivation of demand curve,, Engel curve, consumption and income/price changes, price, income and substitution effect under Hicks and Slutsky decomposition , elasticity and its application, revealed preference approach

Module 2: Production, Cost and Revenue Analysis

Factors of Production and Production Possibility Curve, production function, Isoquant, isocost line and producer's equilibrium, ridge lines and expansion path, Cobb-Douglas, CES and VES production functions, law of variable proportion, returns to scale, factor substitution – elasticity of factor substitution, traditional and modern theories of costs – derivation of cost curve from production function, short run vs long run costs, economies of scale, economies of scope, elasticity of cost, average and marginal revenue, AR, MR and elasticity, interactions of cost and revenues –.

Module 3: Market Structure

Demand and Supply analysis, market equilibrium – consumer and producer surplus, Equilibrium output and price determination under various market structures – perfect competition, monopolistic competition, monopoly and bilateral monopoly, price discrimination and measure of monopoly power, oligopoly and duopoly - perfect collusion (cartel) model, competition-oriented models - Cournot and Bertrand model, Tacit Collusion (Leader-Follower) models – dominant firm model, fixed market share model, Stackelberg models, kinked demand curve, taxation and equilibrium of a firm.

Readings

1. Varian, H.R.(2019). Intermediate Microeconomics: A Modern Approach, W.W. Norton.
2. Pindyck, R. S. & D. Rubinfeld (2018). Microeconomics, 9th edition, Pearson.
3. Koutsoyiannis, A. (1979). Modern Microeconomics, Palgrave Macmillan.
4. Layard, P.R.G. & Walters, A.A. (1978). Microeconomic Theory, McGraw Hill.
5. Sen A. (2006). Microeconomics: Theory and Application, Oxford University Press.
6. Baumol, W.J (1979). Economic Theory and Operations Analysis, Prentice Hall.
7. Nicholson Walter (2007). Microeconomic Theory: Basic Principles and Extensions, South-Western.

SEMESTER II

ECONC121: MACROECONOMICS

Credit 4

Module 1: Measuring Key Macroeconomic Concepts

Meaning and definition of key macroeconomic variables – output, inflation, unemployment,, circular flow of income, concepts of national income accounts and methods of measuring national income – rules for Computing GDP, issues in national income accounting, Real vs. Nominal GDP, measuring the cost of living – consumer and whole sale price indices, measuring the unemployment rate, types of unemployment, Okun’s Law, Concept of multiplier – investment multiplier, tax multiplier, export and import multiplier.

Module 2: Theories of consumption and Investment

Keynesian Psychological law of consumption, Kuznets’s Consumption Puzzle, Fisher’s Inter-temporal Choice Model, Permanent Income Hypothesis, Life Cycle Hypothesis, Inflation and consumption, policies affecting consumption, Neoclassical theory of investment – Capital theory and theory of the firm, Finance and the cost of capital, stock market and Tobin’s Q theory, Keynesian Accelerator theory of investment, Inflation and Investment, policies affecting consumption.

Module 3: Classical and Keynesian Systems

Classical revolutions – Say’s law, Quantity Theory of Money, rigid wages and monetary policy in the classical model, Keynesian IS-LM framework – goods market and derivation of IS curve, real influences and shift in IS schedule, the money market and derivation of LM curve, shift in LM curve, determination of equilibrium income and interest rates, relative efficacy of fiscal and monetary policy, crowding out effect, Ricardian equivalence, Aggregate Supply in the short and long run, Aggregate Demand and price determination, Pigou effect and Real Balance effect.

Readings

1. Mankiw, N. G. (2022). *Macroeconomics*, 11th edition, Macmillan Learning.
2. Froyen, R. T. (2013), *Macroeconomics: Theory and policies*, 10th edition, Pearson.
3. D’Souza, E. (2012), *Macroeconomics*, 2nd edition, Pearson.
4. Levačić, R. & Rebmann, A. (1982), *Macroeconomics: An Introduction to Keynesian – Neoclassical Controversies*, Macmillan.
5. Findlay, D. W. (1999). The IS-LM Model: Is There a Connection between Slopes and the Effectiveness of Fiscal and Monetary Policy?, *The Journal of Economic Education* 30 (4), 373-382.

SEMESTER III

ECONC211: MICROECONOMICS-II

Credit 4

Module 1: Factors pricing and Theory of distribution

Market for the factors of production-marginal productivity theory of pricing of factor - factor pricing and income distribution, adding-up problem, Product exhaustion theorem, Euler's , Clark-Wicksteed-Walras 'Product Exhaustion Theorem, -Linkages among the factors of production – theories of wages – determination-wages and collective bargaining – wage differentials – Rent - Ricardian and modern theories of rent-scarcity-differential rent and quasi rent- theories of interest-classical and Keynesian; theories-profit-innovation, risk and uncertainty theories

Module 2: Welfare Economics

Pigouvian welfare economics, Welfare Criteria – Pareto optimal conditions, Social welfare maximization, Inability to obtain optimum welfare – Imperfections, market failure, uncertainty and incomplete markets, Theory of Second Best, Arrow's impossibility theorem

Module 3: General Equilibrium

Partial and general equilibrium - Walrasian general equilibrium – existence, stability and uniqueness of equilibrium, Simple General Equilibrium model , , extension of simple general equilibrium model, Applications of General equilibrium

Readings

8. Varian, H.R.(2019). Intermediate Microeconomics: A Modern Approach, W.W. Norton.
9. Pindyck, R. S. & D. Rubinfeld (2018). Microeconomics, 9th edition, Pearson.
10. Koutsoyiannis, A. (1979). Modern Microeconomics, Palgrave Macmillan.
11. Layard, P.R.G. & Walters, A.A. (1978). Microeconomic Theory, McGraw Hill.
12. Sen A. (2006). Microeconomics: Theory and Application, Oxford University Press.
13. Baumol, W.J (1979). Economic Theory and Operations Analysis, Prentice Hall.
14. Nicholson Walter (2007). Microeconomic Theory: Basic Principles and Extensions, South-Western.
15. Mukherji, A.: Walrasian and Non-Walrasian Equilibria: An Introduction to General Equilibrium Analysis, Clarendon Press, Oxford, 1990

Module 1: Basic Algebra and Functions

Polynomials, concept of identity, equation and inequality, equations – linear, quadratic and cubic, simultaneous equations, arithmetic and geometric progression, Functions and their plots – constant, linear, quadratic, cubic, higher order polynomials, power, exponential, logarithmic, hyperbolic, concept of multivariate functions and 3-dimensional plots, economic applications – indifference curve, budget line, isoquant, isocost line, quadratic marginal curves, cubic cost function, functions indicating growth rates.

Module 2: Differential and Integral Calculus

Concept of limits, continuity and differentiability, L'Hôpital's rule, difference quotient as a measure of slope, derivative as a measure of slope, rules of evaluating derivative, partial derivative – derivative of multivariate functions, marginal analysis - concept of marginal utility, marginal product and marginal cost, higher order derivatives and curvature of curved line, Integration – Indefinite and Definite integrals, Improper integrals, Economic applications of Integrals – Consumer Surplus and Producer Surplus

Module 3: Matrix Algebra

Concept of vector – its properties, matrices and vectors – types of matrices, simple operations on matrices, determinants and their basic properties, transposes, matrix inversion and rank of a matrix, geometric interpretation of vectors and matrix operation, solution of simultaneous equations through Cramer's rule, Application of matrix algebra in Economics: Input-output analysis.

Readings

1. Renshaw, G. (2021). *Maths for Economics*, 5th edition, Oxford University Press.
2. Dowling, E. T. (2012). *Schaum's Outline of Introduction to Mathematical Economics*, 3rd edition, McGraw-Hill.
3. Bradley, T. (2013). *Essential Mathematics for Economics and Business*, 4th edition, Wiley.
4. Sydsæter, K. & Hammond, P. (2012). *Essential Mathematics for Economic Analysis*, 4th edition, Pearson.
5. Hoy, M., Livernois, J., McKenna, C., Rees, R & Stengos, T. (2011). *Mathematics for Economics*, 3rd edition, MIT Press.
6. Henderson, J. M. & Quandt, R. E. (1980). *Microeconomic Theory: A Mathematical Approach*, 3rd edition, McGraw-Hill.

Module 1: Labour Market, inflation and Unemployment

Profit Maximization and Labour Demand, Utility maximization and Labour Supply, Aggregate Supply with/without Money Illusion, Neoclassical Labour Market Equilibrium, Phillip's Curve relationship, theoretical underpinnings of Phillip's Curve, Natural Rate Hypothesis, theory of Adaptive Expectation and expectation augmented Phillip's Curve, Introduction to rational expectations.

Module 2: Business Cycles and Post-Keynesian Development

Multiplier-Accelerator Interaction Model, Monetarists Interpretation of Business Cycles, Real Business Cycle Theory – role of real and nominal factors, Principles of Effective Demand - The Keynesian Underemployment Equilibrium, Neo-Keynesian Quantity constrained models – Classical vs Keynesian Unemployment, Micro theoretic foundations for wage and price rigidity – Efficient Wage Theory, Small Menu Cost, Staggered Wage setting, Insider-Outsider Model.

Module 3: Open Economy Models

Mundell-Fleming Model – fiscal and monetary policy operation under fixed and floating exchange rate regime – trade policy in open-economy IS-LM Models

Readings

1. Mankiw, N. G. (2022). Macroeconomics, 11th edition, Macmillan Learning.
2. Froyen, R. T. (2013). Macroeconomics: Theory and policies, 10th edition, Pearson.
3. D'Souza, E. (2012). Macroeconomics, 2nd edition, Pearson.
4. Levačić, R. & Rebmann, A. (1982). Macroeconomics: An Introduction to Keynesian – Neoclassical Controversies, Macmillan.
5. David Romer (2018). Advanced Macroeconomics, 5th edition, McGraw-Hill.
6. David, G Pierce and Peter J Tysome (1985). Monetary Economics: theories, evidence and policy, Butter worths.

Module 1: Measures of Central Tendency and Dispersion

Central Tendency – Arithmetic mean, weighted mean, median, mode, geometric mean, harmonic mean; Partitions – quartiles, deciles, percentiles; Dispersion – range, quartile deviation, mean deviation, standard deviation and variance, coefficient of variation, Standardised variable, Chebyshev's Theorem.

Module 2: Skewness, Kurtosis and Correlation

Skewness – symmetric and asymmetric distribution, negatively skewed and positively skewed; Measures of skewness – absolute measure – Karl Pearson's coefficient of skewness – Bowley's coefficient of skewness, Kurtosis – definition, types and measures; Correlation vs Covariance, measures of correlation – Karl Pearson's coefficient of correlation, Spearman's rank correlation, partial correlation and multiple correlation- regression.

Module 3: Probability Theory and Distribution

Sample spaces and events, counting techniques – permutation and combination, axioms of probability, basic relationships of probability using Venn diagram – complement, addition law, independence, conditional probability and Bayes' theorem; Probability distribution – probability distribution function and cumulative Distribution function of discrete and continuous random variable, expected value and variance.

Readings

1. Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran J. J. (2018). *Statistics for Business & Economics*, 13th edition, Cengage.
2. Doane, D. & Seward, L. (2022). *Applied Statistics in Business and Economics*, 7th edition, McGraw Hill.
3. Gupta, S. C. & Kapoor, V. K. (2020). *Fundamentals of Mathematical Statistics*, 12th edition, Sultan Chand & Sons.

Module 1: Environment and Economics: Theory, Concept and Linkages

Nature and significance of environmental economics – definition and scope of environmental economics – basic theory – market system and the environment – welfare and environment – the economics of externalities. Environment – economy linkage – environment as a necessity and luxury – population and environment linkage – environmental use as an allocative problem – environment as a public good – valuation of environmental damages: land, water, air and forest, Common Property Resources.

Module 2: Environmental Problems

Economic development and externalities, Increasing population density and exploitation overuse of natural resources, depletion of natural resources, air pollution – water pollution – Noise pollution – energy use and environment problem – pollution and urbanization – global warming and green-house effect – health, urbanization, transport and technology – environmental degradation.

Module 3: Policy Measures for Pollution Control

Impact assessment, Prevention, control and abatement of pollution – hedonic pricing, contingent valuation, polluters pay principle, - choice of policy instruments in developing countries – environmental law – sustainable development – indicators of sustainable development – environmental planning – environmental accounting. Basic approach – design of environmental policy – Indian environment policies and performance – pollution control boards and their function.

Readings

1. Charles D. Kolstad (2000) Environmental Economics, Oxford University Press, New York.
2. Hanley N., J.F. Shogern and b. White (1997) Environmental Economics in Theory and Practice, Macmillan.
3. M. Karpagam (1993), Environmental Economics, Sterling Publishers, New Delhi.
4. S. Sankaran(1994) Environmental Economics, Margham , Madras
5. Lodha, S.L (Ed.) (1991), Economics of Environment, Publishers, New Delhi.
6. The Hindu survey of Environment: Annual Reports.

Module 1: Role of Government

Nature and scope of public finance-Rationale for government intervention-Musgrave's three functions of Government; -allocation, distribution and stabilization, – types of government intervention-production versus provision-regulation of markets, Market failure and public provision of Public goods, Merit goods and club goods.

Module 2: Taxation and Public expenditure

Sources of public revenue, Direct and indirect taxes, Canons of taxation, Theories of taxation-ability and benefit principles of taxation (Lindhal) – principle of maximum social advantage – taxable capacity – impact, incidence, and shifting – Taxes and deadweight loss- types of taxes-characteristics of good tax system. Causes of rising public expenditure, Theories of public expenditure-Wagner's Law-Peacock-wiseman's hypothesis-Samuelson theory of public goods.

Module 3: Fiscal Decentralization and Deficit Financing

Rationale for decentralization – economic, administrative and political – assignment of taxes and expenditure between various tiers of a federal government – rationale and role of local governments, Need, objectives and design of federal fiscal transfers.

Deficit financing: Concept of deficits, Need and impact of deficit Financing, - monetarist versus Keynesian views on deficit financing – pattern of deficit financing-public – debt management and implication for growth, inflation and interest rate.

Readings

1. Goode, Richard (1986) Government Finance in Developing Countries, Brooking Institution Press
2. Jha.R. (1998). Modern Public Economics, Rutledge, London
3. Musgrave.R.A.and P.B Musgrave (1976), Public Finance in Theory and Practice McGraw Hill, Kogakusha, Tokyo
4. Atkinson, A.B and J.E Stiglitz (1980), Lecture on Public Economics, MH Newyork
5. Herber, B.P (1967), Modern Public Finance, Richyard D.Irwin, Homewood. Bagchi, Amaresh (edited), Readings in Public Finance, Oxford University Press

SEMESTER V

ECONC 311: INTRODUCTION TO INTERNATIONAL ECONOMICS

Credit 4

Module 1: Trade and Development

Trade-concept and definition of trade- genesis of international trade- domestic trade and foreign trade- trade in services- basis of international trade- subject matter of international economics- trade in developed and developing countries- role of trade in development- economic growth and trade- major gains from trade, trade strategy: outward oriented and inward oriented- free trade vs protection- globalization and international trade.

Module 2: The theory of trade

Theory of international trade- Mercantilism- Adam Smith the theory of Absolute Advantage- the Ricardian model of comparative advantage; the Heckscher-Ohlin mode of international trade; empirical evidence of H-O model- Leontief paradox- factor price equalization theory- theory of immiserizing growth; imitation gap and product cycle model- economic integration: customs union- pre-customs union and post customs union equilibrium-general equilibrium: the Lipsey model-the Venek model.

Module 3: Trade barriers & policies

Natural and artificial trade barriers- instruments of trade policy; trade barriers- tariff and non-tariff trade barriers; effects of tariff and non-tariff barriers; unfair trading practices: dumping and subsidies- Cartels, commodity agreements and state trading- trade policy in developing countries- with special reference to India- trend of international trade in India, direction and composition of India's international trade- recent trade policies of India.

Readings

1. Krugman. P.R, and Obstfeld (2006): International Economics, Addison Wesley, USA.
2. Carbaugh.R.J (2014), International Economics, 12th Edition, South-Western, USA.
3. Barbara Ingham (2015), International Economics, Prentice Hall, England.
4. Steven Husted & Michael Melvin (2013), International Economics, Pearson, New York.
5. Dominick Salvatore, (2016), International Economics, Wiley, New York.
6. Gandolfo (2004), Elements of International Economics, Springer, New York.
7. GoI, Annual Reports, Ministry of Commerce and Industries, Various issues
8. Katsioloudes. M.I and Hadjidakis. S (2007) International Business: A Global Perspective, Elsevier, UK.
9. Cherunilam.F (2016) International Economics, The McGraw-Hill, New Delhi.
10. Dunn and Mutti (2004), International Economics, Routledge, New York.

Module 1: Introduction

Growth and development- conceptual issues. Welfare state and the emergence of development indicators, and its universality, issues in measurement- national income and per capita income –measurement of purchasing power parity. GNP- index of development and welfare- construction of poverty weighted index of social welfare. Alternative measures of development – human development index- gender based development index, gender empowerment measure- international poverty index, global hunger index- social sector and development- Education and health.

Module 2: Theories of Underdevelopment, Development, and Dependency

Marxian Economics, Keynesian Economics. Rosenstein Rodan's Big- Push theory, Theory of Backwash and Spread effect. Stage theories of development Marx and Rostow – Differentiating Ex-Anti and Ex-post theories - Experiences of Asian and African countries and mainstream theories, assumptions, limitations and universal applicability. Emergence of Evidence based theories – Models of Dualism - Social, technical and financial dualism. Lewis model of economic development, Ranis and Fei model, Jorgenson's model, Criticism. Balanced and unbalanced growth, Linkage effect Hirschman and Nurkse.

Module 3: Mainstream Propositions and Indian Development Experiences

Indian Social Structure and Development – Caste – Properties, Common Property Resources; agriculture and labour, access to land, access to education, employment, urbanisation -transport network – industrialisation, judicial and political power and development, foundations and patterns of socio-economic cultural and political exclusions and development outcomes. Relevance of Mainstream theories and the need for alternative theories of development – modernity, post-modernity, structuralism, post-structuralism, Postcolonialism, Post-developmentalism, Rights based approach to development and alternatives, and the need to revert to sustainable development.

Readings

1. Simon Kuznets, (1966), *Economic Growth, Rate structure and Spread*, Yale University Press.
2. Adam Szirmai, (2005), *Dynamics of socioeconomic development-An introduction*, Cambridge University Press.
3. Amartya Kumar Sen, *Growth Economics*, Penguin Harmondsworth
4. Gerald Meir, (2003), *Leading Issues in Economic Development*, Oxford University Press.
5. A.P. Thirwall, (1994), *Growth and Development ELBS*.
6. Richard Peet and Elaine Hartwick, (1999), *Theories of Development*, New York: Guilford Press,
7. Polanyi, Karl. (1944). *The great transformation*. Sussex: Beacon Press.
8. Harriss – White, Barabara (2003), *India Working: Essays on Society and Economy*, Cambridge University Press, Cambridge.
9. Harriss – White, Barabara , Dalits and Adivasis in India's Business Economy.
10. Rudra, Ashok, *Intelligentsia as a Ruling Class*, Critical Quest
11. Aloysius, G, *Interpreting Kerala's Social Development*, Critical Quest
12. Pulin Nayak, *Economic Development & Social Exclusion in India*, Critical Quest
13. Arjan de Haan & Naila Kabeer, *Social Exclusion (Two Essays)*, Critical Quest
14. Amartya Sen (2004), *Social Exclusion*, Critical Quest.

Module 1: Simple and Multiple Linear Regression

Specifications of the Model, Functional forms, Assumptions, Ordinary Least Squares (OLS) Estimation, Gauss Markov Theorem and properties of OLS, Testing of Hypotheses about regression parameters and Statistical Inference, Coefficient of Determination, Prediction with the Simple Regression model, Estimation of parameters; goodness of fit - adjusted R^2 ; partial regression coefficients; testing hypotheses – individual and joint significance.

Module 2: Problems in OLS Methods

Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors, Analysis of Residuals: Heteroscedasticity and Autocorrelation, Problem of Multicollinearity-their Consequences, Detection and Remedies.

Module 3: Dummy variables in Regression

Introducing dummy (independent) variables- nature of dummy variables, variables with two categories and more than two categories, dummy variable trap, Problems of LPM. Introducing statistical packages for analysis of Econometrics.

Readings

1. Gujarati and Porter, *Basic Econometrics*, Fifth Edition, McGraw Hill/Irwin, 2009.
2. Greene, William H. *Econometric Analysis*. 6th Edition, Prentice Hall. 2008.
3. Johnston J. and Dinardo, J. *Econometric Methods*. 4th Ed. McGraw-Hill 1997. Greene
4. Ramanathan, Ramu, *Introductory Econometrics with Applications*, 5th edition, 2002, Thomson Asia Pte Ltd., Singapore.
5. Stock, James H., and Mark W. Watson (2006): Introduction to Econometrics, Second Edition, (Addison-Wesley Series in Economics).
6. Wooldridge, J., *Introductory Econometrics: A Modern Approach*, 2015, Nelson Education.
7. Earl K. Bowen & Martin K. Starr, *Basic Statistics for Business and Economics*, McGraw Hill International Student Edition
8. G.S. Maddala – Introduction to Econometrics. Wiley Publishers (Indian edition)
9. Christopher Dougherty, Introduction to Econometrics, Oxford University Press, 3rd edition, Indian edition, 2007.

Module 1: Indian Economy during the colonial period and Post-colonial Period

Colonial Period: People, resources and institutions in the pre-independent India – Structure of Indian villages, land and agriculture, industries and handicrafts; Infrastructure: urban centres, roadways, railways and ports-Economic Consequences of the Colonial Rule and the Theory of Drains. Post-Colonial Period: Characteristics of the Indian Economy- National Income: Natural Resources: land, forest, water, mineral resources, and fisheries; Demographic conditions, Human Development in India.

Module 2: Planning, Agriculture and Industry

Planning: Historical Evolution of Planning in India-Objectives-Strategies-Evaluation of Different Five Year Plans- Inclusive growth in Five year Plan-Function of NITI Aayog. Agriculture: Land Use Pattern-Irrigation-Institutional reform: Land Reforms-Technological Reform: Green Revolution-Changing pattern of Production and Productivity in Indian agriculture-Agricultural Finance and Credit -Agricultural Marketing. Industry: Industrial Pattern during the Plan Period-Industrial Policy: 1948, 1956, 1977, 1980 and 1991-Large Scale Industries Information Technology Industry-Role of Micro, Small and Medium Enterprises (MSME) -Industrial Finance.

Module 3: The Tertiary Sector in India:

Economic or Physical Infrastructure: Growth of Roads, Railways, Air and Water Transport-Energy: Renewable and non-renewable energy-Issues and Challenges in Public Private Partnership (PPP) and Science and Technology. **Social Infrastructure:** Education: School education system-Higher Education System- Different Education Policy (School education and higher education) and Its impact on Indian society: Achievements and Failures- Educational Status of Gender and Different Social Groups in India: Issues and challenges in NEP. **Health:** Accessibility and Availability of health in India- - Structure Health Infrastructure in rural and urban areas –Different Health Committee Reports- Health Finance in India-Role of WHO in India's Health

Readings

1. Breman, Jan (1996), *Footloose Labour: working in India's Informal Economy*, Cambridge University Press.
2. Bardhan, P.K. (1999), *The Political Economy of Development in India*, OUP, New Delhi.
3. Bawa,R.S. and P.S. Raikhy,(1997), *Structural Changes in Indian Economy*, Gurunanak Dev University press, Amritsar.
4. Chakravarty, S. (1987), *Development planning: The Indian Experience*, OUP, New Delhi.
5. Datt.R. (2001), *Second Generation Economic Reforms in India*, Deep & Deep Publications.
6. Harriss-White, Barbara (2003), *India Working: Essays on Society and Economy*, Cambridge University Press, The Edinburgh Building, Cambridge CB2 2RU, UK
7. Harriss-White, Barbara, (2015) *Middle India and Urban-Rural Development: Four Decades of Change*, Springer New Delhi, ISBN: 978-81-322-2987-2
8. Tirtankar Roy (2011), *The Economic History of India*, Oxford University Press, New Delhi.
9. Raychaudhuri, Tapan and Habib, Irfan (2004), edited *The Cambridge Economic History of India Vol. 1*, reprint, Orient Longman Private Ltd, New Delhi.
10. Dharma Kumar (1983) edited *The Cambridge Economic History of India, Volume 2*,
11. Cambridge University Press, Cambridge.

SEMESTER VI

ECONC321: Labour Economics

Credit 4

Module 1: Approaches to Labour Economics

Approaches: Origin of labour: World of Work-slavery, slave trade, indenture labour, abolition of slavery, and caste system in India - attached/bonded labour, wage labour - value of work-Why labour economics as a discipline? - Classical, Neo-classical-Marxism-Institutionalism.

Module 2: Human Capital, Discrimination, and Wage Determination

Human Capital: Education and labour market-Theory of human capital: relation between earning schooling, education, training and human capital. Discriminations: Theories of discrimination; taste, employer, employee, customer and statistical discrimination, Measurement of Wage Discriminations: estimation method; decomposing method, direct assessment method. Wage Determination: Homogeneous perfect completion model- Heterogeneous wage differential-Hedonic wage function-Dual, segmented and fragmented labour markets, notions of ritual purity and pollution and value of labour / labour output / productivity.

Module 3: Collective Bargaining, Trade Union and Globalization of Labour

Collective Bargaining: Theories-Precursors, Axiomatic approach Strategic approach, labour conflicts approach (strikes arbitration), Trade union objectives, determination of union membership, caste and inter-generational occupational stagnation, and problems related to unionisation of labourers and wage determination. Globalization; hereditary occupations and possibility of labour mobility, theories of migration, characteristics and determinants of migration, international trade and labour market theories; Stolper-Samuelson theorem-firm selection and trade model, technology and employment, globalisation and its impact on labour

Readings

1. Butler, A.D. (1972): Labor Economics and Institutions, American Publishing Company, ND.
2. Breman, Jan (1996), Footloose Labour: working in India's Informal Economy, Cambridge University Press.
3. Harriss-White, Barbara (2003), *India Working: Essays on Society and Economy*, Cambridge University Press The Edinburgh Building, Cambridge CB2 2RU, UK
4. Harriss-White, Barbara, (2015) Middle India and Urban-Rural Development: Four Decades of Change, Springer New Delhi, ISBN: 978-81-322-2987-2
5. George, J.B. (1996): Labour Economics, McGraw Hill,, NY.
6. Marshall, F.R., V.M. Briggs, and A.G. King (1984): Labour Economics, Richard D. Irwin Inc. Homewood, Illinois.
7. McConnell, C.R., S.L. Brue and D.A. Macpherson (2009): Contemporary Labour Economics, McGraw Hill, NY.
8. Burton, F.J, L.K. Benham, W.W. Vaughn III and R.J. Hanagan (Eds.) (1971): Reading in Labour Market Analysis, Holt. Rinehart and Winston, Inc, USA.
9. Rees, A. (1973): Economics of Work and Pay, Harper and Row, NY.
10. Sen, A.K. (1975): Employment, Technology and Development, OUP, ND.
11. Solow, R.M. (1990): Labour Market as an Institution, Harper and Row, NY

Module 1: Industries and Development

Basic concepts of industrial economics- rational of industrialization- evolution of industries in India, need- importance and role of industries in economic development- industry and agriculture sector linkages- industrial development-experience of developed and developing countries.

Module 2: Industrial Entrepreneurs and Finance

Concepts and definition of industrial entrepreneurs- entrepreneurial motivation- types, characteristics and functions of industrial entrepreneurs- role of entrepreneurs in economic development- role of women entrepreneurs in the industrial development- rural entrepreneurship development in India- institutional finance to entrepreneurship development- problems and remedies of industrial entrepreneurs. Importance of finance to industrial development, owned, and external funds for industrial development- role, and types of institutional finance- functions of IFCI, IDBI, SIDBI, ICICI, SFCs, SIDC, commercial banks, etc in industrial development- trend and problems of industrial finance in India.

Module 3: Location, Development and Problems

The general determinants of industrial location- technical factors, economic and infrastructural factors, other factors- theories of industrial location- the central place theory- Renner's theory- Rawstron's principles- Weber's theory- the market area theory of Tord Palander- Central place theory of Losch- trend of industrial location in India- Recent trends in industrial growth in India- growth performance of major industries- Development and problems of small-scale industries in India- Role of public and private sectors in India- Effects of liberalization on industrial development in India- role of MNCs in industrial development- Sick industries and remedies- Industrial policy of India.

Readings

1. Parker. C. Simon (2009), The Economics of Entrepreneurship, Cambridge University Press, New York.
2. Anil Kumar (2003), Entrepreneurship Development, New Age International, New Delhi.
3. Debasish Biswas & Chanchal Dey (2021), Entrepreneurship Development in India, Routledge, New York.
4. Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.
5. Brahmananda, P.R. and V.R. Panchamukhi (Eds) (1987), The Development Process of the Indian Economy, Himalaya Publications
6. Barthwal, R.R. (1992), Industrial Economics: An Introductory Text Book, Wiley Eastern Ltd. New Delhi.
7. Cherunilam, F. (1994), Industrial Economics: Indian Perspective, (3rd Edition), Himalaya Publishing House, Mumbai
8. Kuchhal, S.C. (1980), Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.

Module 1: Basic Concepts and Principles

Agricultural economics – nature and scope; Basic concepts – marginal returns, yield gap, returns to scale, economies of scale, technology; Traditional vis-à-vis modern agriculture; Role and importance of agriculture in economic development; Agricultural Infrastructure – physical, social, and institutional; Agricultural growth in India and sub-sectors since independence; Structural changes; Sources of growth and instability in Indian agriculture; Agricultural revolution – green, white, blue, brown, yellow, pink, etc., Success stories and challenges in the food supply; Targets under the Sustainable Development Goals (SDGs).

Module 2: Farm Resource and Production

Farm management vis-à-vis Production economics; Factors of production – types of inputs and resource services; Input subsidies; Farm management decisions; Economic principles of farm management; Types of farming; Farming systems; Farm planning and budgeting; Cost concepts; Farm financial analysis; Farm investment analysis; Farm efficiency – technical, allocative, and economic efficiency; Partial and total factor productivity; Introduction to production and cost function; Derivation of supply from cost curve; Risk and uncertainty in agricultural production – concepts and metrics; Agriculture-Industry linkage.

Module 3: Public Distribution and Policies

Dynamics in agri-food system; Supply chain vis-à-vis Value chain vis-à-vis Value addition; Agricultural markets – types and functions; Foodgrains procurement – operational mechanism, institutions involved, and policy implications; Public distribution system and food security – Objectives and mechanism; Food Security Act; Food security programs and schemes; Government regulation and legislation; Agricultural commodities export-import scenario; Recent trends in agri-food system.

Readings

1. Dantwala ML (1992). Indian Agricultural Development Since Independence: A Collection of Essays, South Asia Books.
2. Drummond EH and Goodwin JW (2010). Agricultural Economics. Pearson Education Limited.
3. Ghatak S and Ingersent K (1984). Agriculture and Economic Development. Prentice Hall / Harvester Wheatsheaf.
4. Heady E (1968). Economics of Agricultural Production and Resource Use. Prentice-Hall, Inc.
5. Johl SS and Kapoor TR (2009). Fundamentals of Farm Business Management. Kalyani Publishers.
6. Kahlon AS and Tyagi DS (1983). Agricultural Price Policy in India. Allied Publishers Pvt. Ltd., New Delhi.
7. Raju VT and DVS Rao (2017). Economics of Farm Production and Management. Oxford & IBH Publishing Co. Pvt. Ltd.
8. Reddy SS, Ram RP, Sastry N and Devi BI (2019). Agricultural Economics. Oxford Publishers.
9. Singh A, Sadhu AN and Singh J (2011). Fundamentals of Agricultural Economics. Himalaya Publishers.
10. Lekhi RK and Singh J (2015). Agricultural Economics: An Indian Perspective. Kalyani Publishers.

Module 1: Functions of Money and Money Supply

Concept of money and its functions – Medium of exchange, unit of account and store of value - Role of money in a modern economy: Advantages over barter – Monetary policy, output stabilization and inflation control - Supply of Money: Central bank, money-multiplier and money supply – Creation of money and role of commercial banks

Module 2: Demand for Money and Interest Rates

Demand for Money: Quantity theory of money – Keynesian analysis – Post-Keynesian: Tobin's and Baumol's approach – Monetarist money demand function – Stability of velocity of money and its implication for money stock-nominal GDP relation – Money and Interest Rate: Understanding interest rates behavior, real and nominal interest rates - Factors influencing changes in equilibrium interest rate and liquidity preference framework

Module 3: Conduct of Monetary Policy in India

RBI and its monetary policy: Overall monetary policy framework – instruments, targets and objectives – Monetary transmission mechanism: Money versus credit view – channels of monetary transmission – Monetary operating procedure, liquidity management and OMOs – Challenges in the conduct of monetary policy – Adoption of Inflation Targeting by RBI and the Role of MPC – Recent recommendation of MPC.

Readings

1. Mishkin, Frederic (2008): *The Economics of Money, Banking, and Financial Markets*, 7th edition, Pearson Addison Wesley, New York
2. Pierce D.G. and P.J. Tysome (1985): *Monetary Economics: Theories, Evidence and Policy*, 2nd Edition, Butterworths, London
3. Samantaraya, Amaresh (2015): *Conduct of Monetary Policy in India: Changing Dimensions in the Post-reform Period*, TR Publications, Chennai.
4. Reserve Bank of India: *Report on Currency and Finance*, various issues.

SEMESTER VII

ECONC411: HISTORY OF ECONOMIC THOUGHT

Credit 4

Module 1: Early Period

Nature and importance of history of economic thought – ancient economic thought – Aristotle, Plato- Medieval economic thought – Islamic Economic thought, Mercantilism– Physiocrates.

Module 2: Classical, Marginalists, and Keynesian Thoughts

Adam Smith – David Ricardo – Thomas R. Malthus – German romantics and socialists – Sismondi, Karl Marx – economic ideas of J.B.Say – J.S.Mill – Historical School: Senior, List. The precursors of marginalism – Cournot, Thunen, Gossen – the marginalist revolution – Jevons, Walras and Menger-Bohm-Bawerk, Wicksell and Fisher – the rate of interest – Wicksteed and Weiser – distribution- Marshall as a great synthesizer – Pigou: welfare economics – Schumpeter: role of entrepreneur and innovations. A Treatise on Money – The General Theory of Employment, Interest and Money.

Module 3: Indian Economic Thought

Early economic ideas: Kautilya, Thiruvalluvar – Modern economic ideas: Naoroji, Ranade, R.C. Dutt, Gokhale, J.K. Metha and M.N. Roy – Economic ideas of Gandhi, J C Kumarappa, cottage industries, trusteeship – Economic thought of Dr. Ambedkar- Early approaches to planning – cooperation as a strategy – Contributions of Vakil, Gadgil and VKRV Rao.

Readings

1. Bhatia H.L (1994), History of Economic Thought, Vikas Publishing House, New Delhi.
2. Ganguli, B.N. (1977), Indian Economic Thought: A Nineteenth Century Perspective, TMH, New Delhi.
3. Roll, Eric (1992), History of Economic Thought, Faber & Faber, London.
4. Seshari, G.B (1997), Economic Doctrines, B.R. Publishing Corporation, New Delhi.
5. Haney, Lewis H. (1977), History of Economic Thought, Macmillan, New York.
6. Gide, Charles and Rist, Charles, Economic Thought.
7. Shanmugasundaram, V. (1981), Indian Economic Thought and Policy, S. Chand & Co., New Delhi.
8. Ghosh, B. N. and R. Ghosh (1988), Concise History of Economic Thought, Palgrave Macmillan, New Delhi.
9. Ed. Abul Hassan M. Sadeq and Aidit Ghazali (1992), Readings in Islamic Economic Thought, Longman, Malaysia.

Module 1: International Trade and Development

The basis of international trade- international trade and economic growth- effect of economic growth on international trade- role of developing countries in international trade- globalization and international trade- gains from trade- distribution of gains- trade strategies: outward and inward oriented trade strategies- international economic institutions- socio-economic and environmental issues from international trade- trade barriers: tariff and non-tariff barriers.

Module 2: Balance of Payments

Concept and definition of balance of payments- Balance of trade and balance of payments: accounting methods- overall balance of payments- equilibrium and disequilibrium in the balance of payments- causes and types of disequilibrium- balance of payments adjustment mechanism- automatic BoP adjustment- expenditure switching policy- expenditure changing policy- other methods of BoP adjustment mechanism- recent trend of balance of payments in developing countries- with special reference to India – theories of foreign exchange rate determination.

Module 3: India's International Trade & Policy

State of India's export in the international market- Trend of international trade of India- direction and composition of India's international trade- trade deficit scenario of India- new economic policy and India's trade- recent trade policies- problem of Indian trade- suitable solutions- Trade Barriers- Goods and Services tax and its impact on India's trade- recent scenario of India's export and import.

Readings

1. Krugman. P.R, and Obstfeld (2006): International Economics, Addison Wesley, USA.
2. Carbaugh.R.J (2014), International Economics, 12th Edition, South-Western, USA.
3. Barbara Ingham (2015), International Economics, Prentice Hall, England.
4. Dominic Salvatore, (2019), International Economics, Wiley.
5. GoI, Annual Reports, Ministry of Commerce and Industries, Various issues
6. Katsioloudes. M.I and Hadjidakis. S (2007) International Business: A Global Perspective, Elsevier, UK.
7. Cherunilam.F (2016) International Economics, The McGraw-Hill, New Delhi.
8. Steven Husted & Michael Melvin (2013), International Economics, Pearson, New York.
9. Thomas A. Pugel (2020), International Economics, McGraw-Hill, New York.

Module 1: Research in Economics

Meaning of research in economics: Types of research, methods and techniques, differences among them, the logical framework of investigation, the nature of problem and appropriate methodology, macro-level vs. micro level research, problems in aggregation, methodology leading to methods and then techniques, analysis of historical records, participant or nonparticipant observation, mass observation, questionnaires: reliability and validity, personal interviews, group interviews, Triangulation, case studies, Data collection & Sampling, types of Sampling, Sampling Procedure, Choice of Sampling technique, Ethics in research.

Module 2: Identifying Research Problem

Formulation of research problem-identification and operationalization of the problem, survey of literature, development of working hypotheses, preparation of research design, investigation in availability of information, sampling design, error minimization, evaluation of time and cost, collection of information, processing of collected information.

Module 3: Research Methods, Data Analysis and Drafting Report

Quantitative methods -use of secondary data, constructing a questionnaire and designing a survey, merits and demerits of survey methods-type of survey-selecting the survey method – sample survey of different types – merits and demerits. Qualitative Methods: the case study methods - merits and demerits, Participant observation, interview methods – open and closed, structured and unstructured, focused group discussions, process documentation.

Analysis of quantitative and qualitative data, interpretation, report writing – formulating and arranging concepts and ideas, formulating arguments, substantiating arguments with evidence, data, notes and references, bibliography; report writing-steps-quality of a good research report.

Readings

1. Don Ethridge (2004), “Research Methodology in Applied Economics: Organizing, Planning and Conducting” Second Edition, Blackwell Publishing.
2. John Creswell (2013) “Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, SAGE Publications, Inc; Fourth Edition
3. Gibaldi, Joseph (2009). “MLA Handbook for writers of Research Papers”, Modern Language Association of America 7th edition.
4. Glenn L. Johnson (1986) Research methodology for economists: philosophy and practice, Macmillan
5. Bhattacharjee, Anol, (2012). "Social Science Research: Principles, Methods, and Practices" Textbooks Collection. Book 3. http://scholarcommons.usf.edu/oa_textbooks
6. Johnson, Steven A. Greenlaw (2005) “Doing Economics: A Guide to Understanding and Carrying Out Economics Research, South-Western College Pub; 1 edition
7. Kagel, JH and Roth, AE (1995) The Handbook of Experimental Economics, Princeton University Press, Princeton.
8. Kothari, CR and Gaurav Garg (2013) Research Methodology: Methods and Techniques, New Age International Publishers.
9. Fink, A., (2009). Conducting Research Literature Reviews: From the Internet to Paper. Sage Publications

SEMESTER VIII

ECONC421: THEORIES OF ECONOMIC GROWTH

Credit 4

Module 1: Classical and Neo-Classical Theories of Growth

Economic growth and development: conceptual issues and indicators, Classical theories of economic growth: Ideas of Adam Smith and David Ricardo – Harrod-Domar Model.

Solow Model of growth, Preferences, Technology, and Demographics, Optimal growth, Steady-state equilibrium, Transitional dynamics and uniqueness of equilibrium, Neoclassical growth in discrete time, Technological change and neoclassical model, Role of policies on Growth.

Module 2: Endogenous Growth Theories and Economic Development

First-generation models of endogenous growth: AK Model with physical and human capital, Two-sector AK model, growth with externalities, Endogenous Technological Change: Modelling technological change, Models of Schumpeterian growth, Directed technological change. Broad overview of theories of development – Structural Change and Economic Growth: Unbalanced growth-demand and Supply side, Structural transformation, Agricultural productivity and industrialization.

Module 3: Political Economy of Growth

Institutions, Political Economy and Growth: Impact of Institutions on Long-run development, Distributional conflict and economic growth in a simple society, Distributional conflict and competition, Inefficient economic institutions: A First Pass. Political Institutions and Economic Growth: Political regimes and economic growth, Political institutions and growth-enhancing policies, dynamic trade-offs, Understanding endogenous political change.

Readings

1. Barro, Robert J. and Xavier Sala-i-Martin (2004): *Economic Growth*, Prentice-Hall of India Pvt. Ltd.
2. Debraj Ray (2010): *Development Economics*, Princeton University Press.
3. Acemoglu, Daron (2009): *Introduction to Modern Economic Growth*, Princeton University Press.
4. Michael P. Todaro and Stephen C. Smith (2015): *Economic Development*, Pearson Publication.
5. Thirlwall A.P (2011) *Economics of development*, Palgrave Macmillan.
6. Sen, Amartya (1970): *Growth Economics*, Penguin Harmondsworth

Module 1: Indian Economic Policy and Performance

Broad Economic policy regime of the pre-reform period: Central planning – import substitution and domestic industrial policy – green revolution – social control and nationalisation of banks – socioeconomic outcomes of pre-reform policies, Overall economic growth, sectoral diversification, broad-based industrial structure, self-sufficiency in food, augmentation of domestic savings, Implications of TRIPS, TRIMS, GATS and New EXIM policy- Impact of WTO on various aspects of Indian Economy, BoP crisis of 1991, and comprehensive economic reforms since 1990s, - Liberalisation, Privatization and Globalisation, and macroeconomic outcome, Creating of SEZ, coming of MNCs, retail trade reforms, and its impact on economy.

Module 2: Indian Economic experiences during reform period

structural transformation and sectoral diversification of the Indian economy – Financial development, saving mobilization and economic growth in India .Public Sector disinvestment, Foreign Direct Investment and its trends, dynamics of Manufacturing and Service Sector, MSME and its competitiveness among the MNCs, Increasing share of Service Sector to GDP, Multinational Companies and performance, balancing large corporates and small scale enterprises in manufacturing ,nature of jobs during reform period, jobless growth, wealth inequalities. Geographical concentration of MNCs and regional disparities, population distribution and migration, pattern of wages and cost of living, pattern and trends of employment in the informal sector.

Module 3: Unfinished agenda and current concerns and issues

Unfinished agenda: Poverty eradication and income inequality – Sectoral Issues: Problems and challenges in Indian agriculture – doubling farmers’ income, crop diversification, pattern of land uses – MSP and marketing agri-products – small landholding and low productivity – Indian industry:– reforms and industrial productivity – issues on labour market reforms – Services sector revolution and sustainability issues –Economic crises and their impact, Macroeconomic analysis of the Covid-19 impact on the Indian economy ,Major policy announcements: recent Economic survey and Union budget, RBI’s monetary policy and contemporary policy issues .

Readings:

Basu, Kaushik (2016): An Economist in the Real World, Penguin- Viking.

Bhagwati, Jagdish and N and Charles W Calomiris, (2008) ed: Sustaining India’s Growth Miracle, Stanza

Government of India, Economic Surveys, various issues.

Ahluwalia. I.J. and I.M.D Little (Eds) (1999), India’s Economic Reforms and Development, Oxford University Press, New Delhi.

Bardhan, P.K. (1999), The Political Economy of Development in India, Oxford University press, New Delhi.

3. Bawa,R.S. and P.S. Raikhy,(1997), Structural Changes in Indian Economy, Gurunanak Dev University press, Amritsar.

Harriss – White, Barabara (2003), *India Working: Essays on Society and Economy*, Cambridge University Press, Cambridge.

Harriss – White, Barabara, Dalits and Adivasis in India's Business Econo

ELECTIVES

Minor (Level 100)

ECONM101: AGRICULTURAL FINANCE AND PROJECT MANAGEMENT

Credit 4

Module 1: Basics of Agricultural Finance

Role and importance of agricultural finance; Financial institutions and credit flow to rural sector; Agricultural lending – direct and indirect financing; Financing through cooperatives, NABARD, commercial banks, and RRBs; District credit plan; Capital formation in agriculture; Non-banking financial institutions; Recent banking reforms and its impact on agriculture; Digitization of banking sector; Microfinancing and role of MFI's; Credit linked rural development programmes; Supervisory credit system; Overdue problem – causes, consequences, and mitigating measures; Credit rationing; Credit widening; Credit deepening; Macro-finance assessment.

Module 2: Analysis of Agricultural Credit and Financial Statements

3 C's, 7 P's and 3 R's of credit; Estimation of technical feasibility, economic viability, and repaying capacity of borrowers and appraisal of credit proposals; Information asymmetry in farm financing – adverse selection and moral hazard issues; Financial decisions – investment, financing, liquidity, and solvency; Preparation of financial statements – balance sheet, cash flow statement, and, profit and loss account; Ratio analysis; Assessing the performance of the farm.

Module 3: Project Overview and Impact Analysis

Project approach in financing agriculture; Project cycle – identification, preparation, appraisal, financing, and implementation; Project appraisal – financial, economic, and environmental aspects; Project appraisal techniques – Undiscounted measures and discounted measures; Network techniques – PERT and CPM; Project impact evaluation – meaning, types, methods and ethical considerations; Impact evaluation for policy decision; Selecting outcome and performance indicators; Risks in financing agricultural project – management and coping mechanism.

Readings

1. Barry JP and Elunger PN (2010). Financial Management in Agriculture. Pearson Prentice Hall (7th Edition).
2. Baum EL, Diesslin HG and Heady EO (1961). Capital and Credit Needs in Changing Agriculture. Iowa State University Digital Press. <https://www.iastatedigitalpress.com/plugins/books/54/>
3. Chanana C (1969). Agricultural Finance in India: Role of commercial Banks. Marketing and Economic Research Bureau, New Delhi.
4. Gittinger JP (1972). Economic Analysis of Agricultural Projects, John Hopkins University Press, Baltimore.
5. Harberger AC (1972). Project Evaluation. Collected Papers, Macmillan Press.
6. Little IMD and Mirrless JA (1974). Project Appraisal and Planning for Developing Countries. Oxford and IBH Publishing Company, New Delhi.
7. Muniraj R (1987). Farm Finance for Development. Oxford & IBH Publications.
8. Murray WG and Nelson AG (1960). Agricultural Finance. Iowa State University Press.
9. Paul GJ, Sebastian M, Patrick P, Laura RB and Christel VMJ (2016). Vermeersch, Impact Evaluation in Practice (2nd Edition), The World Bank, Washington, DC.
10. Reddy SS and Ram R (2018). Agricultural Finance and Management. Oxford & IBH Publishing Company Private Limited.

Module 1: Conceptual Issues

Concept of Social Sector – Significance of Social Sector – Economic Development And Social Sector Development – Equity and Social Sector – Environment of Economics – Economy – Environment Interaction- The Material Balance Principle - Entropy Law - Market Failure , Property Rights , Open Access Resources- Collective Action.

Module 2: Educational and Health Economics

Human Capital – Human Capital Vs. Physical Capital, Components of Human Capital: Determination of Demand for Education: Costs and Benefits of Education: Educational Planning and Economic Growth: Educational Financing: Education and Labor Market,: Economics of Education Planning In Developing Countries with special emphasis on India. Determination of Health - Economics of Health Care: Appraisal of Health Care Financing: The concept of Human Life Value: Benefit Cost and Cost Effectiveness Approaches: Inequalities in Health and Class and Gender Perspectives: Institutional Issues in Health Care Delivery.

Module 3: Policy issues in India

Programmes and Policies of Educational Development – health development- Strategies, Programmes and Policies- Evolution of Environmental Policy in India – Air and Water Acts- Fiscal Incentives - Enforcement and Implementation Issues- Policies and Programmes Relating to Water Supply and Sanitation.

Readings

1. Council for Social Development (2006), India, Social Development Report, Oxford University Press, Delhi.
2. Dreze, Jean and Amartya Sen (1995), Indian Economic Development and Social Opportunity, Oxford University Press, Delhi.
3. Field, B.C. (1994), Environmental Economics: An Introduction, McGraw Hill, New York.
4. Freeman III, A.M. (1998), The Economic Approach to Environmental Policy, Chelster Law, Edward Elgar, U.K.
5. Krueger, A. and M. Lindhal (2001), “Education for Growth: Why and for Whom”, *Journal of Economic Literature*, 39(4), pp. 1101 -1136.
6. Latchanna, G. and Hussein, J.O. (2007), Economics of education, Discovery publishing House, New Delhi.
7. Planning Commission Eleventh Five Year Plan, Social Services Sector (2007- 12) Vol. II, Govt. of India, New Delhi.

Module 1: Financial and Banking System in India

Overview of the Indian financial system – structure, role, and growth; Financial intermediaries and markets; Regulation of financial institutions and markets in India; RBI – role, and functions; Banking regulation and supervision; Conduct of monetary policy; Commercial banks in India – structure, role, and growth; Generation of savings and investments; Banks and monetary policy transmission; Regulation and supervision of commercial banks in India.

Module 2: Money and Capital Markets

Indian money market – instrument, institutions, functions; Changes in the regulatory framework; Growth of money market; Stocks and bonds; Primary and secondary markets; Process of initial public offer; Offer of Government bonds; Stock market functioning; Stock indices; Evaluation of stocks and bonds; Understanding stock market information.

Module 3: Foreign Exchange Market and Financial Derivatives

Exchange rate – types, determinants; Nature of forex market; Nature of forex inflow and outflow; Examples of External Commercial Borrowings (ECBs) and NRE (Non-Resident External) account; RBI and exchange rate management; Need for derivatives; Types of derivatives; Example of how stock index derivatives could be used to hedge risks in stock market investment; Evaluation of financial derivatives.

Readings

1. Bhole LM and Mahakud J (2017). Financial Institutions and Markets: Structure, Growth and Innovations, McGraw Hill Education Private Limited, Chennai.
2. Khan MY (2018). Indian Financial System. McGraw Hill Education Private Limited, Chennai.
3. Pathak BV (2018). Indian Financial System: Markets, Institutions and Services. Pearson India Education Services Private Limited.
4. Reserve Bank of India. Report on Currency and Finance, Various issues.
<https://www.rbi.org.in>
5. Sarkhel J and Salim S (2017). Indian Financial System and Financial Market Operations. McGraw Hill Education Private Limited, Chennai.

Module 1: Concepts

Why Regional Economics? What is a region? Different types of regions; Regional Income; Problems of estimation; Indicators of regional development.

Module 2: Location of Firms and Spatial Price Theory

One market one input case; More generalized versions; Locational interdependence; Hotelling phenomena; General equilibrium; Uncertainty; Maximizing vs. satisfying. Price equilibrium in geographically separated and interlinked markets; Market area boundaries; Reilly's law; Models of pricing under free entry; Spatial monopoly and Price discrimination; Spatial monopolistic competition.

Module 3: Techniques of Regional Analysis and Policy

Regional and interregional input-output analysis; Attraction model; Gravity model; Shiftshare analysis; Impact studies. People prosperity versus Place prosperity; Formulation of interregional objectives; Consistency between national and regional objectives; Alternate regional policy measures; Historical evidence; Agriculture, Industry, Physical infrastructure, Social Sector.

Readings

2. Chand, M. and V.K. Puri (1983), *Regional Planning in India*, Allied Publishers, New Delhi.
3. Richardson, H.W. (1969), *Regional Economics*, Weidenfield, M. and Nicolson, London.
4. Hoover, E.M. (1974), *An Introduction to Regional Economics*, Alfred A. Knopf, New York.
5. Isard, W. (1960), *Methods of Regional Analysis*, MIT Press, Cambridge, Mass.
6. Nair, K.R.G. (1982), *Regional Experience in a Developing Economy*, Wiley-Eastern, New Delhi.
7. Brahmananda, P.R. and V.R.Panchmukhi (Eds.) (2001), *Development Experience in the Indian Economy: Inter-State Perspectives*, Bookwell, Delhi.

Module 1: Nature, People and Allocation of Resources

Human society and geography – Scarcity / abundance of land and water, contestations over resources, evolution of culture, culture as the foundation for socio-economic structures, People and their Systems of allocation and use - Land, Water, agriculture and production and ideas of demand and supply of resources and the resultant production of goods.

Module 2: Need, Availability Module 3: Social Institutions and Resource Allocation

Functions of village, caste, family, kinship, and their role in determining individual's access to resources, occupation, and remuneration, and ability to participate in market for land and produce.

Module 3: State, Market, and Resource allocation

Resources, People and their survival as Land, Labour, production organization. Emergence of State, Market, and Access to Productive resources, education and employment and the resultant livelihood patterns of people.

Readings

1. Knowles, R and Wareing, J (1996) *Economic and Social Geography*, Rupa & Co, Delhi.
2. Guha, Ramachandra (2011) edited *Social Ecology*, Oxford University Press, New Delhi.
3. Ludden, David E (1993), *Peasant history in South India*, Oxford University Press, Delhi,
4. Lakshmi Narasu, P (2003) *A Study of Caste*, Asian Educational Services, New Delhi.
5. Moon, Vasant edited *Writings and Speeches of Dr. B.R. Ambedkar Volumes 1, 2, 5 and 7*, Education Department, Government of Maharashtra.
6. Deshpande, Satish. 2004. *Contemporary India: Sociological Perspectives*, New Delhi: Sage Publications
7. Harriss, John. 1982. *Capitalism and Peasant Farming: Agrarian Structure and Ideologies in Northern Tamil Nadu*. New Delhi: OUP.
8. Barbara Harriss White (2003) *India Working: Essays on Economy and Society*, Cambridge University Press.
9. Mosse, David, *The Rule of Water: Statecraft, Ecology and Collective Action in South India*, Oxford University Press, New Delhi, 2003
10. Ludden, David E (1978a), "Ecological Zones and the Cultural Economy of Irrigation in Southern Tamilnadu", *Journal of South Asian Studies*, New Series Vol. I, No. 1,

Module 1: Introduction to Agricultural Growth and Development

Agricultural development – scope and importance; Agricultural development and agricultural growth – divergence in concept and approach; Indicators and measurement of agricultural growth and development – traditional and modern approaches; Sustainable agricultural growth and development; Criteria for under development; Obstacles to agricultural development; Economic and non-economic factors of agricultural growth.

Module 2: Theories and Models of Agricultural Development

Role of agriculture in economic/rural development; Theories of agricultural development; Population and food supply; Vision 2050 – targets and pathways; Need for effective agricultural policies; Models of agricultural development – diffusion model, conservation model, urban-industrial impact model, Leontief input-output model, induced innovation model; Agriculture-Industry development models.

Module 3: Globalization and Agricultural Policy Analysis

Global vis-à-vis Indian agriculture; Globalization and its relevance to agricultural development; World Trade Organisation (WTO) – Agreement on Agriculture (AoA) and implications for developing countries; The dilemma of free trade – Free trade vis-à-vis Protectionism; Agricultural policies – resource policy, credit policy, input and product marketing policy, price policy; National Agricultural Policy (NAP) – salient features, thrust areas and critical analysis; Policy Analysis Matrix (PAM).

Reading

1. Chakaravathi RM (1986). Under Development and Choices in Agriculture. Heritage Publishers, New Delhi.
2. Diwett KK (2002). Modern Economic Theory. S. Chand & Company.
3. Eicher KC and Staatz JM (1998). International Agricultural Development. Johns Hopkins University Press.
4. Frank E (1992). Agricultural Policies in Developing Countries. Cambridge University Press.
5. Ghatak S and Ingersent K (1984). Agriculture and Economic Development. Select Book Service Syndicate, New Delhi.
6. Jhingan ML (1998). The Economics of Development and Planning. Vrinda Publications.
7. Jules PN (1995). Regenerating Agriculture – Policies and Practice for Sustainability and Self Reliance. Vikas Publication House.
8. Naqvi SNH (2002). Development Economics – Nature and Significance. Sage Publications.
9. Norton RD (2004). Agricultural Development Policy: Concepts and Experiences. Wiley Publications.
10. Todaro MP and Smith SC (2012). Economic Development. Pearson Publications.
11. Tweeten L (2020). Agricultural Policy Analysis Tools for Economic Development. Routledge.
12. Weerahewa J and Jacque A (2022). Agricultural Policy Analysis: Concepts and Tools for Emerging Economies. Springer.

Module 1: Introduction to Banks and Banking

Ordinary banking and the legal provisions - Narration of banking using bank balance sheet - Major items of income and expenditure of a bank - Functions of a commercial bank – Usual banking operations at branch level – Banking sector reforms in India - Brief overview of the Indian banking system.

Module 2: Role of Banks in A Modern Economy

Banks as financial intermediaries and saving-investment Process - Banks resolving size and maturity mismatches - Banks, asset diversification and risk mitigation - Banks as the backbone of the payment and settlement system – role of banks and bank lending in the monetary transmission mechanism.

Module 3: Banking Regulations

Rational for regulation and supervision of banks - Major types of risks in banking - Measurement of risks in banking - Evolution of public policy related to banking regulation and supervision - Current banking regulatory framework under Basel prudential norms – CAMELS – On-site inspection and Off-site surveillance - Roadmap for the Future.

Readings

1. Casu, Barbara, Claudia Girardone and Philip Molyneux (2021): *Introduction to Banking*, Pearson.
2. Mishkin, Frederic (2021): *Economics of Money, Banking and Financial Markets*, Pearson.
3. Samantaraya, Amaresh (2023): *Economics of Banking and Bank Management*, Cambridge University Press, *Forthcoming*

Module 1: Introduction to Financial Markets

Capital markets, consumption and investments with and without capital markets, market places and transaction costs and the breakdown of separation; Fisher separation theorem; the agency problem; maximization of shareholder's wealth, capital budgeting techniques, Portfolio Theory, Asset Pricing Model.

Module 2: Various methods in Insurance Business

Basic methodologies applied to practical problems relating to: rating, reserving, reinsurance programme performance, financial planning, monitoring the asset / liability position. Future life time random variable, its distribution function and density function, concept of force of mortality, curtate future life time random variable its probability mass function, deferred probabilities, all these functions in terms of international actuarial notation, analytical laws of mortality such as Gompertz and Makeham, single decrement life table, select and ultimate life table.

Module 3: Insurance Pricing policies

Insurance cost and fair premium, basic definition rate making, rate making in property and liability insurance, investment income and the timing of claim payment; assurance and annuity contracts with level and varying benefits, Net premiums for insurance products and annuity schemes; automobile insurance, homeowners insurance, life insurance and annuities, employee benefits and group medical coverage, retirement plans.

Readings

1. Harrington and G. Niehaus, *Risk Management and Risk*, Tata McGraw-Hill, second edition, 2004.
2. Rajeda, G. *Principles of Risk Management and Insurance*, eighth edition, Pearson Education, 2004
3. Harriett, E.J. and L.L. Dani, *Principles of Insurance: Life, Health, and Annuities*, second edition, Life Office Management Association, 1999
4. Black, K. and H. Skipper, *Life and Health Insurance*, Pearson Education, thirteenth edition, 2004

Module 1: Fundamentals of Financial Markets

Financial markets and instruments – Basic concepts of Accounting: Balance sheets – Cash flow statements – Income statement – Financial markets and the Economy: Real Assets and the Financial Claims – Framework for macroeconomic analysis of Flows – Supply and Demand for Securities - Ethics of Finance and the Economic Function of Financial Markets – Purpose of Regulation of Financial markets

Module 2: Efficiency of Securities Markets and Asset Prices

Central Trading Places – Financial markets with central trading places – Operational efficiency and Efficient Market Hypothesis: Weak form of EMH – Semi-strong form of EMH – Strong form of EMH. Determination of Equity Prices: Shares as claim to future dividends and Corporate Net worth–CAPM: Simplest form – extending CAPM – estimating betas – implications for portfolio management – Arbitrage Pricing Theory

Module 3: Financial Derivatives

Introduction to Financial Derivatives: Forward, Future, Options – Exchange traded Stock options Payoffs from Buying and Selling Options – Combinations of Options – Put-Call Parity theorem Valuation of Stock Options: Application of CAPM to Options – Black-Scholes Formula – Options and Portfolio Management. Forward Contracts – Basic Elements of Future Contracts – Organization of Future markets – Future Prices: Profits and Losses on Various Transactions – Spot and Future Prices – Hedgers, Speculators and Market Equilibrium – Futures and Portfolio Management

Readings

1. Houthakker, Hendrik S. and Peter J. Williamson (1996): *The Economics of Financial Markets*, Oxford University Press
2. E. J. Elton and M.J. Gruber: *Modern Portfolio Theory and Investment Analysis*, Wiley, London.
3. J. C. Hull (2004): *Futures and Option Markets*, Prentice- Hall, New Jersey
4. R. A. Haugen (2001): *Modern Investment Theory*, Fifth Edition, Prentice Hall, New Jersey.
5. Bhole L M “Financial Institutions and Markets”, Tata Mc Graw Hill, New Delhi

Module 1: Introduction

Nature, Scope and Importance of Marketing - Evolution of Marketing Concept – Marketing Environment – Functions of Marketing – Market Segmentation: Concept, Benefits, Methods – Consumer Behaviour – Buying Motives, Theories.

Module 2: Product Planning and Physical Distribution

Concept of Product – Product Planning – New Product Development, Meaning and Steps – Product Life Style – Pricing: Significance and Factors Affecting Pricing – Pricing Objectives – Pricing Policies – Kinds of Pricing – Pricing of New Product.- Importance of Distribution Channel – Kinds of Channel Members – Factors Influencing Distribution Channel - Types of Middlemen – Function of Middlemen – Inventory Control.

Module 3: Promotion and Marketing

Product Promotion – Meaning, Objectives and Methods of Product Promotion. Advertising: Meaning, Objectives and Kinds of Advertising – Scientific Advertising – Advertising Management – Personal Selling: Meaning and Importance of Personal Selling – Kinds of Salesmen – Selling Process- Need for Consumer Protection – Measures for Consumer Protection – Consumerism – Evolution and Approaches to Consumerism – Laws to Protect Consumers.

Readings

1. P. Kotler and Armstrong: Principles of Marketing, Prentice Hall India
2. Gupta C.B. & Rajan Nair. N: Marketing Management, Sultan Chang & Sons, New Delhi.
3. Ramasamy V.S. and Namakumari. S: Marketing Management, Macmillan India, New Delhi.
4. . Dr.Amit Kumar and Dr.B.Jagdish Rao: Marketing Management, SahityaBhawan Publications, Agra. Dr.PriyankaGite: Marketing Management, Taxmann Publication (P) Ltd., New Delhi. Book(s) for Reference 1 Philip Kotler: Marketing Management Practice – Prentice – Hall of India, New Delhi

Module 1: Microfinance Revolution

Rethinking Banking- Microfinance Revolution Rethinking Banking - Why Doesn't Capital Naturally Flow to the Poor -The Grameen Bank and the Beginnings of Microfinance -A Microfinance Revolution - Growth of Microfinance in India - Rotating savings and credit associations (ROSCAs) - Limits to ROSCAs - Impact of Microfinance on Poverty eradication- Microfinance crisis in India in late 2000s.

Module 2: Development of Microfinance Products

Concept of Micro Finance – Financial Collateral - The Grameen Bank - Targeting Women - Neoclassical Approaches to Household Decision Making - How Microfinance Affects Households - Growth of Micro Finance in India – Micro Finance for poverty reduction in India – Micro Finance and the Millennium Development Goals – Pros and cons of Micro Credit Programme – Micro Finance Models in India.

Module 3: An Assessment of Innovative Initiatives of NGOs in Entrepreneurship

Role and strategy of NGO – Functions of NGOs – NGOs and their role in poverty alleviation – NGOs in Entrepreneurship Development - Strengths and weakness of NGOs – Women and Micro Finance – Gender issue in micro finance – Rationale behind SHG and need to institutionalization – Genesis of rural credit system – Genesis of SHG. Self Help Group and Rural Development Approach - The Concept, Why Self Help Groups? – Objectives – Functions of SHGs Promotion– Formation of SHG - Constraints of Women SHGs - What are the Important Steps for Sustainable Development of SHGs? What are the Skills needed for Managing Successful SHGs - SHG Federation.

Readings

1. Beatriz Armendariz & Jonathan Morduch (June 28, 2002), Economics of Microfinance, PHI Learning Publications, New Delhi.
2. Rais Ahmad (2009) Micro Finance and Women Empowerment, Mittal Publication New Delhi.
3. Cernea, Michael M.(1988), NGOs and Local Development, The World Bank, Washington, Discussion Paper.
4. Desai Vasant. (2005) Rural Development in India , Himalaya Publishing House.
5. Vijayakumar . A, (2009) Banking , Micro Finance and Self Help Group in India, New Century Publications, New Delhi.
6. Farrington, John, Lewis, D.J.,(1993), NGOs and the State in Asia, Routledge, London.

Module 1: Globalization: An Overview and Issues

Historical perspectives of Globalization, First Age, Second Age and Third Age of Globalization, Convergence club under Globalization, Globalization and Developing Countries, Risks and Benefits Associated with Globalization, Uneven Process of Globalization, Regionalization under Globalization: Economic Consequences of Regional Integration, Regionalism and the WTO: A Stepping Stone or Stumbling Block?

Module 2: Globalization and its consequences

The Logics of Economic Globalization, Embedded Globalization' and the Rescaling of Economic Activity, Globalization of Politics and the Politics of Globalization, Globalization and the Crisis of the Nation State Policies, Globalization and State Retrenchment: The Evidence Assessed. Globalization of Production: The Rise of Global Production, Global Value Chains: Governance and Location, China as the World's Factory.

Module 3: Globalization, Economic Development and Environment

Ways of Thinking about Development, Development Theory in Practice, The Crisis of the Washington Consensus, Responses to the Crisis of the Washington Consensus, Interpreting the Relationship between Globalization and Development: Globalization, Growth, Poverty, Inequality, Resentment, and Imperialism. Globalization and the Environment: History of Global Environmentalism, Globalization and Environmental Change, Corporations and Sustainable Development.

Readings

1. John Ravenhill, Global Political Economy, Oxford University Press, 3rd Edition, 2011.
2. Saul Bernard Cohen, Geopolitics: The Geography of International Relations, Rowman & Littlefield, 2009.
3. Krugman and Obsfeld, International Economics: Theory and Policy, 10th Edition, 2015.
4. Pilbean, Keith, International Finance, Palgrave Macmillan, 3rd Edition, 2006.
5. Feenstra and Taylor, International Economics, Worth Publishers, 3rd edition, 2010.

Module 1: Introduction

Population study and demography; its relation with other disciplines; Theories of Population - Malthus, Optimum theory of population, and Theory of Demographic Transition; Historical evidence of population growth in developed and developing countries.

Module 2: Sources of Demographic Data and Analysis

Sources of Demographic data in India: Census - Civil registration system and Demographic surveys; National Family Health Survey 1 and 2 - their relative merits and demerits. Crude birth and death rates, age specific birth and death rates, standardized birth and death rates. Study of Fertility; total fertility rate, gross reproduction rate, and net reproduction rate — study of marital status - Life table; meaning of its columns and its uses – Reproductive and child health in India - Temporal and spatial variation in sex ratios.

Module 3: Population Projection and Policy

Techniques of population projection - Concept of stationary, stable and quasi-stationary population - Aging of population in India - Changes in family structure and old age security. Salient features of Population Censuses of 1971,1981,1991 and 2001; Evolution of population policy in India, shift in policy focus from population control to family welfare and to women empowerment; Demographic status and household behavior – Education women's autonomy and fertility- Population, health, poverty and environment linkage in India; Migration - Urbanisation - The New population Policy.

Readings

1. Agarwal, S.N. (1985), India's Population Problem, Tata McGraw-Hill, Bombay.
2. Bhende, A. and T.R. Kanitkar (1982), Principles of Population Studies, Himalaya Publishing House, Bombay.
3. Agarwala, U.D. (1999), Population Projections and their Accuracy, B.R. Publishing Corporation, New Delhi.
4. Bogue, D. J. (1971), Principles of Demography, John Wiley, New York.
5. Bose, A. (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
6. Census of India, Government of India, Various Reports, New Delhi.
7. Choubey, P.K. (2000), Population Policy in India, Kanishka Publications, New Delhi.
8. Misra, B.D. (1980), An Introduction to the Study of Population, South Asian Publishers, New Delhi.
9. Srinivasan, K. (Ed.) (1999), Population Policy and Reproductive Health, Hindustan Publishing Corporation, New Delhi.

Module 1: Basic Concepts

Rural Economics; Concept, Scope, Objectives and Importance of Rural Economics. Characteristics of Rural Economy; Rural-Urban Linkages and Disparity. Rural Economy of India; Size and Structure of Rural Economy. Approaches to Rural Development; Gandhian Approach, V.M Dandekar's Approach, PURA and PRIs.

Module 2: New techniques towards Rural Studies

The concept of Rural Space – Diversification of Rural Economy - Contemporary approaches to the study of change in Rural Societies – Rural economies: Definition, Characteristics of rural versus urban economies, Rent – Seeking economy and Dependent economy – Rural research: The agencies of Non – Humans, Actor Network theory, Path to rural sustainable development, Rural studies and the Regulation Approach – Disaster Management in Rural areas: Disaster response, planning, recovery and rebuilding.

Module 3: Rural Development; Growth oriented strategy

Strategies of Rural Development; Growth oriented strategy, Welfare strategy, Responsive strategy, Holistic strategy, Right-based strategy. Rural Development Programmes; Objectives and Appraisal (SJGSY and MGNREGS). Rural Financing, Rural Economy; Vulnerability, Sustainability and Disaster Management.

Readings

1. Dhingara IC (1986), *Rural Economics*, S Chand & sons, New Delhi.
2. Katar Singh (2009), *Rural Development Principles, Policies and Management* 3rd Edition, SAGE Publications India Pvt Ltd
3. Paul Cloke, Terry Marsden and Patrick Mooney (2006), "*Handbook of Rural Studies*", SAGE Publications.
4. Kathleen p. Bell, Kevin J. Boyle, Jonathan Rubin (2016), "*Economics of Rural Land-Use Change*", Routledge.
5. Dr. Eveline S. van Leeuwen (2010), "*Urban-Rural Interactions*", Springer Heidelberg.
6. Thomas Nixon Carver (2016), "*Principles of Rural Economics*", Ginn and Company
7. Frank Ellis and H.Ade Freeman (2005), "*Rural Livelihoods and Poverty Reduction Policies*", Routledge.

ECONM301: AGRICULTURAL MARKETING AND PRICE ANALYSIS

Credit 4

Module 1: Introduction to Agricultural Marketing

Concepts in agricultural marketing; Characteristics of agricultural commodities; Problems in agricultural marketing from demand, supply, and institutions side; Market intermediaries and their role; Market regulation and performance; e-NAM; Producer surplus – marketable and marketed surplus; Marketing mix – 7Ps; Marketing efficiency – concept and estimation; Marketing advantages and disadvantages; Institutions in agricultural marketing – role and functions; Marketing cooperatives; Public-private partnership - successful case studies.

Module 2: Analysis of Agricultural Market System

Importance of market analysis in the agricultural system; Software used in market analysis; Agricultural commodity markets – spot and futures; Market information; Market structure and performance; Agri-commodity exchanges – price discovery and risk management in commodity markets; Regulatory mechanism of agri-futures trading; Stakeholder analysis; Multimarket estimation; Market integration – vertical and horizontal; Price integration and transmission between markets; supply / value chain analysis; GAP analysis; Current trends in the market system.

Module 3: Analysis of Agricultural Commodity Prices

Characteristics of agricultural commodity prices; Data sources for agricultural commodity prices; Quantitative estimation – growth, risk, price spread, and seasonal variation; Univariate and multivariate analysis of price series; Lag operators and difference equations; Demand and supply estimation; Supply response models; Agri-commodity price forecast – methods, validation, and reporting; Commodity price indices – types and econometric estimation; Markov-chain analysis.

Readings

1. Acharya SS and Agarwal NL (1994) *Agricultural Prices - Analysis and Policy*. Oxford & IBH Publishers, New Delhi.
2. Acharya SS and Agarwal NL (2021). *Agricultural Marketing in India*. Science Technology.
3. Ferris JN (1998). *Agricultural Prices and Commodity Market Analysis*. McGraw-Hill.
4. Goodwin JW (1994). *Agricultural Price Analysis and Forecasting*. Wiley.
5. Hallam D (1990). *Econometric Modeling of Agricultural Commodity Markets*. New Routledge.
6. Martimort D (1996). *Agricultural Markets: Mechanisms, Failures, and Regulations*. Elsevier.
7. Norwood FB, Lusk JL, Peel DS and Riley JM (2022). *Agricultural Marketing and Price Analysis*. Waveland Press, Inc.
8. Schrimper RA (2001). *Economics of Agricultural Markets*. Pearson.
9. Timmer CP (1986). *Getting Prices Right*. Cornell University Press.
10. Tomek WG and Robinson KL (2003). *Agricultural Product Prices*. Cornell University Press.

Module 1: Banking Management: Loans and Advances

Brief overview of banking operations and Indian banking system – Loan portfolio of commercial banks in India – Policy, procedures, operations related to credit appraisal and pricing of retail loans, corporate loans – priority sector lending – Investment and treasury operations – Risk management.

Module 2: Banking Management: Deposits and ALM

Composition of liabilities of Indian banks – Banking strategies on composition of bank deposits of different types and their pricing – Asset-liabilities management (ALM) – Management of off-balance sheet items of the banks.

Module 3: Regulatory Compliance and Performance Evaluation

RBI's regulatory and supervisory mechanism - Procedures for submission of various returns by the banks to the RBI – CRR, SLR, Statements on capital adequacy, asset quality, investments, liquidity position, etc. – Analysis of bank's profitability – Transfer Price and related mechanism - Marketing strategies in banks.

Readings

1. Casu, Barbara, Claudia Girardone and Philip Molyneux (2021): *Introduction to Banking*, Pearson.
2. Mishkin, Frederic (2021): *Economics of Money, Banking and Financial Markets*, Pearson.
3. Samantaraya, Amaresh (2023): *Economics of Banking and Bank Management*, Cambridge University Press, *Forthcoming*
4. Singh, Kanhaiya and Vinay Dutta (2013): *Commercial Bank Management*, McGraw Hill Education (India), Chennai

Module 1: Introduction to Behavioral Economics

Nature and Scope of behavioural economics – Behavioural economics and the standard model - The Historical Context and birth of Behavioural Economics – 7 basic principles and components of behavioural Economics - The resurgence of behaviourism in economics - Economic rationality and irrationality - Motivations and Incentives: Intrinsic *versus* extrinsic.

Module 2: Decision making models

The decision-making and transitivity in Standard Model – Rational Decision making models-rational decision process – Problems with rational decisions Model - Bounded Rationality Model- Institution model- Bias in Decision making Model – Non rational Decision Making Model (NDM Model) - different types of irrational bias – Incremental Model- Difference between rational and irrational model- Reason Based Choice Model – Biases in judgments – Heuristics Model . How the human mind works-the two systems; Familiarity and related heuristics; Representativeness and related biases; Anchoring; Irrationality and adaptation; Hyperbolic discounting.

Module 3: Decision-making under Risk and Uncertainty

Bounded Rationality Model- Dual system Model- Risky Choices - Expected utility theory - Prospect theory - Prospect theory *versus* expected utility theory - Behavioural paradoxes: Allais Paradox and the Ellsberg Paradox - Reflection effect games of Kahneman and Tversky – Regret theory - Discount Utility Model - Alternatives to Discount Utility Model.

Readings

1. Camere, Clin F. and George Lowenstein & Mathew Rabin (2004): *Advances in Behavioural Economics*, Princeton University Press.
2. Wilkinson, Nick and Mathias Klaes (2012): *An Introduction to Behavioural Economics*, Palgrave Macmillan.
3. John Malcolm Dowling (2007): *Modern Developments in Behavioral Economics*, *University of Hawaii, USA* and Yap Chin Fang.

Module 1: Introduction to Derivative Market

Derivative markets and trading; Types of Derivatives; Arbitrage, Hedging and Speculation; Forward and future contracts; Options; Swaps; Real options. Pricing futures, bounds and option payoffs, the put-call parity; Valuing options and models, Volatility estimation and implied volatility.

Module 2: Capital Structure

Value of firm, Modigliani-Miller irrelevance hypothesis, choices in financing-debt and equity, the financing mix: trade-offs and theory; signalling hypothesis; effect of agency cost on capital structure, cost of capital, empirical determinants of capital structure choice

Module 3: Dividend Policy and Indian Capital Market

Irrelevance of dividend policy without tax; valuation, growth and dividend policy, dividend policy with taxes; theory of optimal dividend policy; other issues-stock dividends and share repurchase, empirical determinants of optimal dividend policy, Indian capital market and financial sector reforms

Readings

1. Hull, J. Options, Futures and other Derivatives, tenth edition, Prentice Hall
2. Brealey, R. and S. Myers, Principles of Corporate Finance, eighth edition, New York, McGraw Hill
3. Panjer, H.H. Financial Economics: with applications to Investments, Insurance and Pensions, Actuarial Foundation
4. Houthakker, H.S. and P.J. Williamson, Economics of Financial Markets, Oxford University Press, 1996

Module 1: Health Economics and its Applications

Introduction to Health Economics: Definition of economics, Opportunity cost, Causes of Market Failures and Need for Health Economics. Definition of Health Economics, Scope and Importance of Health Economics.

Market failure, public policy, equity and efficiency, Health economics and population dynamics – demographic aging, obesity, disability and malnutrition.

Module 2: Demand and Supply of Health

Demand for Health Care, Grossman Model, and Disparities in Health Care, Measuring Health Outcomes, Quality Adjusted Life Years (QALYS), Disability Adjusted Life Years (DALYS), Economic burden of disease, Health infrastructure: Private and Public.

Module 3: Economic Evaluation of Health Care and Overview of Health Sector in India

Types of analysis: Cost-effectiveness, Cost-utility and Cost-minimization, Cost Benefit Analysis. Willingness to pay thresholds.

Health outcomes, Health systems, Health financing, Health policy in India.

Readings

1. Battacharya, Jay, Timothy Hyde, and Peter Tu (2014):,Health Economics, 1st Edition, Palgrave Macmillan.
2. Morris, S., Devlin N., Parkin. D., Spencer, A. (2012): Economic Analysis in Health Care, 2nd Edition. London, Wiley
3. Dreze, Jean and Amartya Sen (1996): *India : Economic Development and Social Opportunity*, Clarendon Paperbacks.

Module 1: Introduction to R and Object-Oriented Programming

Installing R and RStudio, interface of RStudio, CRAN, R packages, accessing help topics, basic arithmetic operations: using R as a calculator, performing mathematical operations; creating and accessing objects: numeric, character, logical, vectors, matrix, data frames, factors, lists, accessing subsets of data using conditional statements and logical conditions.

Module 2: Data Handling and Basics of Data Analysis

Reading data from packages, accessing external data from text, CSV and Excel files, file attributes, reading cross-sectional, time series and panel data, preparing data for analysis: attaching data files, time series data of regular and irregular frequency, summarizing data, probability functions: finding p-values, critical table values, probability density plots of distributions, generating random numbers using distributions hypothesis tests: z-test, t-test – two sample tests, paired sample test, chi-square test for variance, F-test for equality of variances, regression using Ordinary Least Squares: Bivariate and Multivariate Regression Models, Functional Forms, Violation of assumptions of CLRM.

Module 3: Plots and Documentation

Generating two dimensional plots: scatter plot, line plot, bar plots, box plots, fixing attributes to plots, plots of time series data: multi-panel plots, multi-axis plots, three dimensional plots, basics of ggplot2, creating user defined functions, Creating LaTeX documents and presentations in RStudio, Exporting R Markdown document: source codes with and without echo.

Readings

1. Kleiber, C. & Zeileis, A. (2008). *Applied Econometrics with R*, Springer.
2. Adler, J. (2012). *R in a Nutshell*, 2nd edition, O'Reilly.
3. Wickham, H. & Grolemund, G. (2016). *R for Data Science*, O'Reilly.

Module 1: Introduction

Migration definition; What constitutes a migratory move; measures of migration; Questions addressed in the study of migration; importance of migration: migration and urbanization; possible advantages of living in cities; migration and development.

Module 2: The Determinants and consequences of Migration

What factors cause migration; approaches to modeling migration: Gravity models, Human capital models, Job search models; Family migration; gender and migration – consequences of migration: for the migrants, for destination regions/countries, for origin regions/countries.

Rural-to-urban migration: The Todaro model, the "new economics of migration."; Migrants and the labour force; labour migration and the changing nature of work and employment; 'the Precariat': Globalisation and Migrant Employment; human rights of migrant workers.

Module 3: Emigration and Migration Policy

Nature of the migration: Permanent, temporary, circular, return; brain-drain, brain-gain and brain-circulation; transnationalism: Lifestyle, Families and Identities; remittances and other development initiatives: adaptation and integration; economic effects of remittances.

International Legal and Cooperation Framework; Labor Migration Policies: Origin and Destination – IOM, ILO convention and recommendations; Migration and GATS; Bonded Labour Act 1976, Interstate Workmen Act 1978.

Readings

1. Caroline B. Brettel, James F. Hollifield (2022) "Migration Theory: talking across disciplines" Routledge (Fourth Edition).
2. S Irudaya Rajan and RB Bhagat (2022) "Researching Internal Migration" Routledge (First Edition).
3. Nicholas Van Hear and Ninna Nyberg Sørensen (2003) "The Migration-Development Nexus" IOM.
4. Guy Standing (2011) "The Precariat: The New Dangerous Class" Bloomsbury.
5. Gijbert Oonk (2007) "Global Indian Diasporas Exploring Trajectories of Migration and Theory" Amsterdam University Press.
6. KNOMAD (2020) "Migration and Development Brief 33" World Bank.

Module 1: Multivariate Probability Distribution

Joint Probability Distribution (JPD) function and Joint Cumulative Distribution (JCD) function for discrete and continuous random variables, 3D visualization of bivariate JPD function, Marginal distribution and marginal density functions, Conditional distribution and conditional density functions, Moments of JPD functions – mean, variance and covariance, Conditional expectation, Bivariate normal distribution.

Module 2: Statistical Inference

Theoretical distributions - Chi-square, student's T and F-distribution, Test of Inference– Goodness of Fit for multinomial population and Test of Independence of two variables, Analysis of Variance (ANOVA) – One factor and Two factor ANOVA, General Linear Model to estimate high order ANOVA, MANOVA and MANCOVA, Higher order ANOVA models.

Module 3: Regression Analysis

Correlation vs Regression, Bivariate and Multivariate regression models – Ordinary Least Squares and Maximum Likelihood method to estimate parameters, Tests of Significance, Assessing Overall Fit of model, Multicollinearity, Regression diagnostics. Practical applications in software packages.

Readings

1. Miller, I. & Miller, M. (2021). John E. Freund's Mathematical Statistics with Applications, 8th edition, Pearson.
2. Hogg, R. V, Tanis, E. A., Zimmerman, D. L. (2021). Probability and Statistical Inference, 10th edition, Pearson.
3. Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran J. J. (2018). *Statistics for Business & Economics*, 13th edition, Cengage.
4. Doane, D. & Seward, L. (2022). *Applied Statistics in Business and Economics*, 7th edition, McGraw Hill.
5. Gujarati, D. N. (2003). *Basic Econometrics*, 4th edition, McGraw-Hill.

Module 1: Introduction to Qualitative Research

Overview and Introduction, Difference between qualitative and quantitative research – Epistemological and Ontological underpinnings. Qualitative Research Methods in the Field, Need, scope and advantages, Ethnographic Fieldwork in Social Sciences. Introduction to Grounded Theory, Phenomenology, Saturation, Triangulation, and Negative Cases..

Module 2: Planning and Designing Qualitative Research

Picking a Site or Context, stereotypical or typical – prejudices, social stigma and taboo, Ethics and Dilemmas of Fieldwork, Negotiating Access and Entry and locating within the field, Developing Field Notes - Keeping Field Notes. The Art of Note – Taking. Conducting Observations, oral narratives, case studies, Interviews and Group Discussions, active listening and probing as key research tools, Subjective and Reflective Elements. Documents, Texts, Audio, and Visual Materials..

Module 3: Analysis and Interpretation

Coding and Analysis – Texts Vs Thematic, Discourse, Narrative, Content, Schematic, Hermeneutics, Ethics of interpretation, Writing and presenting qualitative Data. Software for qualitative analysis..

Readings

1. Russell Bernard. Research Methods in Anthropology: Qualitative and Quantitative Approaches, Fifth Edition, AltaMira Press, UK.
2. Denzin, N, and Lincoln, Y. 2011. The SAGE handbook of qualitative research (4th ed.). Thousand Oaks, CA: Sage
3. Silverman, D. 2013. Doing Qualitative Research, London: Sage
4. Lindlof, T. R., & Taylor, B. C. (2011). Qualitative communication research methods (3rd ed.). Thousand Oaks, CA: Sage.
5. Handbook of Qualitative Organizational Research: Innovative Pathways and Methods..

Module 1: Multi-Equation Models

Seemingly unrelated regression and its application. Structural equation models-specification, endogenous, exogenous and predetermined variables, structural versus reduced form, simultaneity bias, identification: rank versus order condition, exact and over identifications, methods of estimation: indirect least squares, instrumental variable estimation, two-stage least squares and three-stage least squares.

Module 2: Discrete Response Models

Introduction to binary variables, Linear probability models and their limitations, Normal and Logistic curve, Probit and Logit models, estimation and inference, hypothesis testing, odds ratios, marginal effects and goodness of fit measures, Multinomial models, Ordinal models.

Module 3: Panel Data Models

Introduction to panel data, pooled repeated cross-section model, within and between estimators, one-way fixed effects model, fixed effects model using least squares dummy variable approach, first difference estimator, random effects model, time fixed effects, Tests of hypothesis for pooled or fixed effects model, pooled and or random effects models (Breusch-Pagan Lagrange Multiplier Test) and fixed or random effects (Hausman test), Hausman-Taylor estimator.

Readings

1. Greene, William H. *Econometric Analysis*. 6th Edition, Prentice Hall. 2008..
2. Greene, William H., and David A. Hensher. *Modeling ordered choices: A primer*. Cambridge University Press, 2010.
3. Angrist, J. D., & Pischke, J. S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.
4. Baltagi, *Econometric Analysis of Panel Data, 5th Edition*, Wiley, 2013
5. Cameron, C.A. and Trivedi, P.K. *Microeconometrics: Methods and Applications*. Cambridge U.P., 2005.
6. Wooldridge, J. M. *Econometric Analysis of Cross Section and Panel Data*. The MIT Press, 2nd edition, 2010.

Module 1: Multivariate Calculus and Unconstrained Optimization

Rules of differentiation and partial derivatives, derivatives of implicit functions, Elasticity of Substitution, Homogeneous and Homothetic functions – economic applications Differentials and Total Differentials – Rules of Differentials, Total derivatives, differentiating system of equations – Jacobian matrix, Problems of maxima and minima in single and multivariable functions, Unconstrained optimization: Optimum values and extreme values – First and second derivative tests.

Module 2: Constrained Optimization

General Structure with two independent variables, derivation of first order and second order conditions, Pareto optimality conditions without and with public goods. Constrained optimization with inequality constraints – linear programming problem and non-linear optimization – constraint qualification and sufficiency theorems, duality and envelope theorem – Duality, Roy's Identity, Shephard's Lemma.

Module 3: Dynamic Analysis

Review of Integral Calculus – Domar growth model, Continuous Time: First order Differential equations – homogenous and non-homogenous case, Dynamics of market price, exact differential equation, Solow growth model, Discrete Time: First order Difference equations – Iterative method, homogenous and non-homogenous case, Dynamic stability of equilibrium, Cobb-web model.

Suggested Readings

1. Chiang, A.C. & Wainwright, K. (2005). *Fundamental Methods of Mathematical Economics*, 4th edition, McGraw Hill.
2. Bradley, T. (2013). *Essential Mathematics for Economics and Business*, 4th edition, Wiley.
3. Sydsæter, K. & Hammond, P. (2012). *Essential Mathematics for Economic Analysis*, 4th edition, Pearson.
4. Hoy, M., Livernois, J., McKenna, C., Rees, R & Stengos, T. (2011). *Mathematics for Economics*, 3rd edition, MIT Press.
5. Henderson, J. M. & Quandt, R. E. (1980). *Microeconomic Theory: A Mathematical Approach*, 3rd edition, McGraw-Hill.
6. Renshaw, G. (2021). *Maths for Economics*, 5th edition, Oxford University Press.

Module 1: Advances in Demand Theory

Recent developments in demand theory – Pragmatic Approach – Constant Elasticity of Demand function, Dynamic Demand function, Lagged Adjustment in interrelated markets – Cobweb model, Linear Expenditure systems, Indirect utility function, Modern utility analysis of Choices involving risk or uncertainty – Neumann-Morgenstern, Friedman-Savage and Markowitz Hypotheses,

Module 2: Pricing Methods and Theory of firm

Alternate Pricing strategy, Theory of Full cost pricing and average cost pricing- - controlled or administered pricing – minimum support price, Limit pricing theory- Bains version, Sylos-Labini model of limit pricing, Public Utility Pricing.- elements of social cost benefit analysis Baumol's sales revenue maximization model - Williamson's model of managerial discretion - Marris model of managerial enterprise - Behavioural model of Cyert and March.

Module 3: Economics of Uncertainty

Individual behaviour towards risk, expected utility and certainty equivalence approaches, risk and risk aversion, Economics of insurance – risk pooling and risk spreading, Mean-variance analysis, Economics of search – adaptive search, efficient market hypothesis, stochastic models of inventory demand - search and transaction cost, Economics of information – Principles of information asymmetry, Adverse selection, signalling and screening, Principal agent problems, and moral hazard.

Readings

1. Varian, H.R.(2019). Microeconomics Analysis, W.W. Norton.
2. Mas-Colell, A., Whinston, M. D. & Greene, J. R. (1995). Microeconomic Theory, OUP.
3. Pindyck, R. S. & D. Rubinfeld (2018). Microeconomics, 9th edition, Pearson.
4. Koutsoyiannis, A. (1979). Modern Microeconomics, Palgrave Macmillan.
5. Henderson, J.M. & Quandt, R.E. (1980). Microeconomic Theory: A Mathematical Approach, 3rd Edition, McGraw-Hill.
6. Layard, P.R.G. & Walters, A.A. (1978). Microeconomic Theory, McGraw Hill.
7. Sen A. (2006). Microeconomics: Theory and Application, Oxford University Press.
8. Baumol, W.J (1979). Economic Theory and Operations Analysis, Prentice Hall.
9. Nicholson Walter (2007). Microeconomic Theory: Basic Principles and Extensions, South-Western.

Module 1: Review of Macroeconomic Debates and Question of Rational Behaviour

Roots of historical debates in macroeconomics – Classical vs Keynesian, Keynesian vs Monetarists, New-Classical vs New-Keynesian, Rational Expectation and Lucas Supply function, neutrality of money, Policy Ineffective Theorem – Lucas Critique, Rational Expectation and Implications of Monetary Policy..

Module 2: Dynamic Macroeconomic Models

The Solow Model and the Central Questions of Growth Theory, infinite-horizon and Overlapping-generations Models - Ramsey–Cass–Koopmans Model - Dynamics of the Economy, Balanced Growth Path, Effects of Fall in the Discount Rate and Government Purchases Diamond Model - Household Behavior and Dynamics of the Economy, Possibility of Dynamic Inefficiency, Role of Government, Real Business Cycle Theory - Baseline Real-Business-Cycle Model, Household Behavior, Solving the Model in the General Case and Implications.

Module 3: Recent Advancements in Macroeconomic Policies

Time Inconsistency and the Debate over Rules vs Discretion, Taylor’s Rule and monetary policy, Theory of Inflation Targeting, issues relating to inflation targeting,

Readings

7. Mankiw, N. G. (2022). Macroeconomics, 11th edition, Macmillan Learning.
8. Froyen, R. T. (2013), Macroeconomics: Theory and policies, 10th edition, Pearson.
9. D’Souza, E. (2012), Macroeconomics, 2nd edition, Pearson.
10. Levačić, R. & Rebmann, A. (1982), Macroeconomics: An Introduction to Keynesian – Neoclassical Controversies, Macmillan.
11. David Romer (2018), Advanced Macroeconomics, 5th edition, McGraw-Hill.
12. David, G Pierce and Peter J Tysome (1985), Monetary Economics: theories, evidence and policy, Butter worths.

Module 1: Theoretical Distribution

Discrete theoretical distribution – Binomial distribution, Poisson distribution; Continuous theoretical distribution – Normal Distribution – Standard Normal Variate; Approximation – Normal approximation to Binomial and Poisson distribution; Other continuous distributions – Student's t-distribution, Chi-square distribution, F-distribution – degrees of freedom.

Module 2: Sampling and Estimation

Population vs sample, Population parameter vs Sample statistic, sampling distribution, standard error, Law of Inertia of Large Numbers, Central limit theorem, Estimation: Estimator and estimate, Point and Interval Estimation, Desirable properties of an Estimator, Standard error of Estimator, Confidence limits for a population parameter.

Module 3: Statistical Inference

Formulation of Statistical Hypothesis, Testing of Hypothesis – Null Hypothesis and Alternative Hypothesis, Stages in Hypothesis testing, Types of Error in Hypothesis testing – Type I error and Type II error, Power of test, Level of Significance and Level of confidence – Critical region, Two tailed test and one tailed test, Computation of test statistic, Small sample tests – t-test, chi-squared test, F-test, Large sample test - Z test for mean and proportion; Test of Significance concerning correlation coefficient.

Readings

1. Miller, I. & Miller, M. (2021). *John E. Freund's Mathematical Statistics with Applications*, 8th edition, Pearson.
2. Hogg, R. V, Tanis, E. A., Zimmerman, D. L. (2021). *Probability and Statistical Inference*, 10th edition, Pearson.
3. Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran J. J. (2018). *Statistics for Business & Economics*, 13th edition, Cengage.
4. Doane, D. & Seward, L. (2022). *Applied Statistics in Business and Economics*, 7th edition, McGraw Hill.

Module 1: Introduction to Agricultural Production Economics

Nature, scope, and significance of agricultural production economics; Agricultural production processes, character, and dimensions (spatial and temporal); Centrality of production functions; Assumptions of production functions; Commonly used production functions in agriculture – Properties, limitations, specification, estimation, and interpretation.

Module 2: Factors of Production and Optimization

Factors of production, classification, interdependence, and factor substitution; Determination of optimal levels of production and factor application; Optimal factor combination and least cost combination of production; Theory of product choice; Selection of optimal product combination. Nature and sources of production risk, modelling, and coping strategies.

Module 3: Cost and Efficiency Analysis

Cost functions and cost curves, components, and cost minimization; Duality theory; Cost and production functions and their applications; Profit function and its estimation; Derivation of firm's input demand and output supply functions; Economies and diseconomies of scale; Technology in agricultural production, nature and effects and measurement; Measuring efficiency in agricultural production – technical, allocative and economic efficiencies; Yield gap analysis – concepts, types, and measurement.

Readings

1. Baumol WG (1973). Economic Theory and Operations Analysis. Practice Hall of India Private Limited, New Delhi.
2. Debertin DL (2012). Agricultural Production Economics. Createspace Independent Pub.
3. Doll JP and Orazem F (1984). Production Economics: Theory with Applications. John Wiley & Sons.
4. Gardner BL and Rauser GC (2001). Handbook of Agricultural Economics Vol. I Agricultural Production. Elsevier.
5. Heady EO (1952). Economies of Agricultural Production and Resources Use. Prentice-Hall Inc., New York.
6. Heady EO and Dillon JL (2012). Agricultural Production Functions. Iowa State University Press, Ames.
7. John DP and Orazem F (1984). Production Economics - Theory and Applications. John Wiley and Sons, New York.
8. John LD (1990). The Analysis of Response in Crop and Livestock Production. Oxford Pergamon Press.
9. Palanisami K, Paramasivam P and Ranganathan C R (2021). Agricultural Production Economics: Analytical Methods and Applications. Astral Publications.
10. Sankhayan PL (1988). Introduction to the Economics of Agricultural Production. Prentice-Hall Pvt. Ltd.

Module 1: Introduction to Behavioral finance

Nature, scope, objectives and application- Investment Decision Cycle: Judgment under Uncertainty - Cognitive information perception - Peculiarities (biases) of quantitative and numerical information perception - Representativeness – Anchoring – Exponential.

Module 2: Behavioral Factors and Financial Markets

The Efficient Markets Hypothesis – Fundamental Information and Financial Markets - Information available for Market Participants and Market Efficiency -Market Predictability –The Concept of limits of Arbitrage Model - Asset management and behavioral factors - Active Portfolio Management: return statistics and sources of systematic underperformance. - Fundamental information and technical analysis – the case for psychological influence.

Module 3: Behavioral Corporate Finance

Behavioral factors and Corporate Decisions on Capital Structure and Dividend Policy - Capital Structure dependence on Market Timing -. Systematic approach to using behavioral factors in corporate decision making - External Factors and Investor Behavior - Mechanisms of the External Factor influence on risk perception and attitudes - Connection to human psychophysiology and emotional regulation Active portfolio management – Source of the systematic underperformance.

Readings

1. Ackert and Deaves, Behavioral Finance: Psychology, Decision-Making, and Markets".
2. John R. Nofsinger, The Psychology of Investing, Pearson Prentice Hall, (4th Edition)
3. Behavioral Finance: Psychology, Decision-Making and Markets, South-Western Cengage Learning, Mason, Ohio.
4. Shleifer, Andrei (2000): Inefficient Markets: An Introduction to Behavioral Finance, Oxford University Press, Oxford.
5. Montier, James (2002): Behavioural Finance, John Wiley & Sons, New York.

Module 1: Introduction

Meaning and Scope of Economics of aging; Population ageing; Dimensions of aging; Measurements of population aging – subjective and economic measures - old age dependency ratio, life expectancy, life table, economic dependency ratio, functional measures; Population aging: facts and determinants; forecasts on population aging.

Module 2: Theories of Aging and Economic Challenges

Biological, Psychological and Social theories - Disengagement theories, Subculture theory, Continuity theory, Activity theory, Age stratification theory, Person-Environment-Fit theory. Retirement and Work; Labour force participation; trends in employment; ageism in employment; aging and employment policy; Pensions, savings and labour markets; Macroeconomic effects of population aging; Population, Savings, and Economic Growth; Aging in a life-cycle model; Aging and government spending.

Module 3: Well-being of the elderly and Aging in India

Housing and transportation; Health, morbidity and disability; leisure and recreation; family and social support; elderly care. Demographics of aging; Public policies in India related to ageing; Welfare Schemes for elderly – Government schemes, Health insurance, Pension schemes, safety and security and Schemes.

Readings

1. Mark Novak (2018) “Issues in Aging” Routledge (Fourth Edition).
2. James H Schulz (2001) “The Economics of Aging” Auburn House (Seventh Edition).
3. David A Wise (Various years) “Economics of Aging” NBER.
4. Jill Quadagno (2017) “Aging and the life course: an introduction to social gerontology” McGraw-Hill Education (Seventh Edition).

Module 1: Village, Caste and Conceptual Foundations of Exclusion

Economic Geography, Productive Resources – land and water, nature of its availability, People, Spatial organisation of village, hierarchy of resources, Resources and allocation, production organization, structures and processes. People, caste as a System of Human and Natural Resource Administration, structure and functions of different social groups, Hereditary nature of Rights and Access to Productive Resources, System of privileges and denials and its socio-economic implications. Notions of purity, pollution, ritual merit and discard, notions relating to morality, family, legal heir, occupation as a religious / spiritual duty, the idea of work and its value, and remuneration.

Module 2: Family as a Fundamental Economic Unit

Caste and vitality of family, notions of rights, kinship network, joint and nuclear families, marriage, gender, sexuality, engendering labour, politics of hereditary occupation.

Module 3: The Indian Development Experiences and Social Outcomes

Development of transport, education and employment opportunities, urbanisation and its impact on traditional social structure, emergence of duality - rural and urban spaces and hierarchies of facilities, Productive resources and hierarchies of access and reconfiguration of caste into socio-economic inequalities.

Readings

1. Cohn, Bernard S (1969), “Structural Change in Indian Rural Society 1596-1885”, in Frykenberg, Robert Eric edited *Land Control and Social Structure in Indian History*, The University of Wisconsin Press, Madison.
2. Cohn, Bernard S, “The Pasts of an Indian Village”, *Comparative Studies in Society and History*, Vol. 3, No. 3 (Apr., 1961), pp. 241-249
3. Gupta, Dipankar, “Whither the Indian Village: Culture and Agriculture in 'Rural' India”, *Economic and Political Weekly*, Vol. 40, No. 8 (Feb. 19-25, 2005), pp. 751-758
4. M. N. Srinivas (2003), “An Obituary on Caste as a System”, *Economic and Political Weekly*, Vol. 38, No. 5 (Feb. 1-7, 2003), pp. 455-459
5. Ahuja, Ravi (1998), “Labour Unsettled: Mobility and Protest in Madras region, 1750-1800”, *The Indian Economic and Social History Review*, Vol. 35, No. 4.
6. Hjejle, Benedicte (1967), “Slavery and Agricultural Bondage in South India in the Nineteenth Century”, *The Scandinavian Economic History Review*, Vol. XV, Nos. 1&2.
7. Ludden, David E (1978a), “Ecological Zones and the Cultural Economy of Irrigation in Southern Tamilnadu”, *Journal of South Asian Studies*, New Series Vol. I, No. 1,
8. Mosse, David, “Ecological Zones and the Culture of Collective Action: The History and Social Organisation of A Tank Irrigation System in Tamil Nadu”, *South Indian Studies* 3, Jan-June 1997.
9. Mosse, David, *The Rule of Water: Statecraft, Ecology and Collective Action in South India*, Oxford University Press, New Delhi, 2003
10. Max Weber (1904), *The Protestant Ethic and the Spirit of Capitalism*
11. Max Weber (1916), *The Religion of India: The Sociology of Hinduism and Buddhism*,
12. Ambedkar, B.R., “Castes in India”, and “Annihilation of Caste”, in V. Moon edited *Dr. Babasaheb Ambedkar Writings and Speeches, Vol. I.*
13. Ambedkar, B.R., “Hindu Social order: Its Essential Principles”, and “Hindu Social Order: Its Unique Features”, in V. Moon edited *Dr. Babasaheb Ambedkar Writings and Speeches, Vol. 3.* 29

Module 1: Labour, Land, Asset Market and Social Institutions

Traditional society, division of labour or division of labourers, socio-cultural governance of people and their productive resources. Lands – Dry and Wet and its significance in Traditional agrarian organization, collective control of land, land as a private property, land market, people and their abilities to participate in the land market.

Module 2: Market for Marriages – Caste, religion, education, employment and regions as mediating forces

Traditional notion of family, agrarian society and joint families, emergence modern occupations and emergence of nuclear families, education, employment and urbanization mediating ideal marriage arrangements.

Module 3: Human capital for Social Justice and Political Economy of Market

Traditional caste based occupations, remuneration, and access to education, inequality in education system, factors determining ability of people to participate in the labour market, employment during the post-reform period. Society and the nature of market, people's ability to participate in market, changes in culture during the post-reform period, consumerism, and the politics of market mechanism.

Readings

1. Ambedkar, B.R., "Small Holdings in India", in V. Moon edited *Dr. Babasaheb Ambedkar Writings and Speeches, Vol. I*, p. 453
2. Baker, Christopher John (1984), *An Indian Rural Economy 1880-1955: The Tamilnad Countryside*, Oxford.
3. Harris, John (1982), *Capitalism and Peasant Farming: Agrarian Structure and Ideology in Northern Tamil Nadu*, Delhi.
4. Jan Breman, *Footloose Labour: Working in India's Informal Economy*, Cambridge University Press.
5. Kundu, Amitabh "Making Indian Cities Slum-Free Vision and Operationalisation", EPW, april 27, 2013 vol xlviII no 17
6. Kundu, Amitabh, "Exclusionary Urbanisation in Asia: A Macro Overview" EPW, November 28, 2009 vol xliv no 48.
7. Kundu, Amitabh , "Politics and Economics of Urban Growth, EPW, May 14, 2011 vol xlv I no 20
8. Chris Fuller and *Haripriya Narasimhan* (2011) "Caste, race, and hierarchy in the American South". *Journal of the Royal Anthropological Institute* (n.s.) 17, 604-21.
9. Chris Fuller and *Haripriya Narasimhan* (2008), "From landlords to software engineers: migration and urbanization among Tamil Brahmins", *Comparative Studies in Society and History* 50: 170-96.
10. Souza, V. S. (1975). Social Inequalities and Development in India. *Economic and Political Weekly*, May 10, pp. 770-773.
11. Maria Saleth, R. (1997). Occupational Diversification among Rural Groups. *Economic and Political weekly*, Vol. 32, No 30, (July 26), pp. 1908-1917.

Module 1: Static and Dynamic Games of Complete Information

Rational Choice Theory, Strategic form or normal form games; solution concept: Iterated deletion of strictly and weakly dominated strategies; Best Response Functions and Nash equilibrium, mixed and pure strategies; Applications in Industrial Organisation, Labor Market and Political Economy. Extensive forms, backward induction, Application: Stackelberg Model of Duopoly, Sequential Bargaining, Finitely and infinitely repeated games, Trigger Strategies, Collusion between Cournot Duopoly, Dynamic games of complete but imperfect information, Subgame Perfect Nash Equilibrium; Bargaining with complete information, ultimatum game, hold up game, bargaining as an extensive game: Rubinstein model, axiomatic bargaining: Nash bargaining solution, applications.

Module 2: Static and Dynamic Games of Incomplete Information

Incomplete Information, Notion of type and strategy, Static Bayesian Games and Bayesian-Nash equilibrium; Examples of Bayesian Nash equilibrium in Industrial organization under Asymmetric Information, Application: Mixed Strategy Revisited, Mechanism Design, 1st price and 2nd price sealed bid Auctions.

Module 3: Introduction to Cooperative Games

Elements of cooperative games, coalition, transferable utility, super additivity theorem, Solution Concept: core, Examples of Core, Shapley-Value.

Readings

1. Osborne, M. J., *An Introduction to Game Theory*, Oxford University Press, 2003
2. Gibbons, R., *A Primer in Game Theory*, Harvester-Wheatsheaf, 1992
3. Fudenberg, D and J. Tirole, *Game Theory*, MIT Press, 1991
4. Osborne, M. J. and A. Rubinstein, *A Course in Game Theory*, MIT Press, 1994
5. Andreu Mas-Colell, Michael Whinston and Jerry Green *Microeconomic Theory*, Oxford University Press
6. Watson, J.(2013), *Strategy*, 3rd edition, W.W. Norton & Company

Module 1: Gender Studies and Demographic Aspects

Introduction to Gender Studies and Demographic Aspects, Importance and concepts of women studies - Decision making, Economic Activity and Women - Factors affecting decision making by women - Women and their access to nutrition- health, education- and social and community resources- economic status- and in work participation rate.

Module 2: Women and Labour Markets

Female work participation - Factors affecting female entry in labour market - Supply and demand for female labour in developed and developing countries- particularly India- Factors affecting female entry in labour market - Wage differentials in female activities- Determinants of wage differentials- gender- education- skill- productivity- efficiency opportunity- Issues of marginalisation and discrimination against women.

Module 3: Gender Planning- Development Policies and Governance

Social Security, Gender Planning, Development Policies and Governance - Social security for women- Review of legislations for women's empowerment, social security & property rights – Need for affirmative action on the part of the government - Mainstreaming gender into development policies, gender planning techniques, gender budgeting, gender sensitive governance- Democratic decentralization and women's empowerment. Gender and development indices- Gender Development Index (GDI) and Gender Empowerment Measure (GEM)- Mainstreaming gender into development policies- Gender-planning techniques- Gender sensitive governance- Paradigm shifts from women's wellbeing to women's empowerment Democratic decentralization (panchayats) and women's empowerment in India.

Readings

1. Agarwal, B., Humphries, J. & Robeyns, I. (eds.) (2010). Capabilities, Freedom and Equality – Amartya Sen's Work from a Gender Perspective. OUP., N. Delhi, India.
2. Agarwal, B. (2008). A Field of One's Own – Gender and Land Rights in South Asia. Cambridge University Press, New Delhi, India. Agarwal, B. (2011). Gender and Green Governance – The 36 Political Economy of Women's Presence Within and Beyond Community Forestry. OUP., New Delhi, India.
3. Boserup, E. (1970), Women's Role in Economic Development, George Allen and Unwin, London
4. Jacobson, J.P. (2007). The Economics of Gender. Blackwell Publishing, USA.
5. Kabeer, N. (1994), Reversed Realities: Gender Hierarchies in Development Thought, Kali for Women, New Delhi.
6. Momsen, J. (2010). Gender and Development. Routledge, USA.
7. Boserup, E. (1970). Women's Role in Economic Development. St. Martin's Press, USA.
8. Goodman, J. (Ed.) (2012). Global Perspectives on Gender and Work. Rowman & Littlefield Publishers, Inc., U.K

Module 1: Global financial Environment

Unique dimensions of international finance, key issues in the international business finance, growing importance of international finance- features of international finance, international finance and economic development, the financial functions in the global context, the challenges of international finance; an introduction to the recent changes in the global financial markets.

Module 2: Balance of Payments and Exchange Rate Determination

Balance of payments: Collection, reporting and presentation of BoP, History of BoP accounts, An overview of sub-accounts in BoP, BoP of US, China and India, Elasticity and absorption approaches to the BoP; automatic BoP adjustment mechanism-automatic mechanism with flexibility in prices, interest rates and income levels.

Foreign exchange; Foreign exchange market; spot market; forwards and future markets; exchange rate, PPP theory of exchange rate determination and law of one price, Absolute and relative PPP, a generalized version of PPP, Balassa-Samuelson model; Uncovered interest rate parity, Monetary models of exchange rate determination, an introduction to Portfolio balance model.

Module 3: Post-war International Monetary System, Crises and Lessons drawn

Bretton Woods system, Breaking down of Bretton Woods system and the post-Bretton Woods era, Reforms of the international monetary system, Eurocurrency and Eurobond markets, Currency derivatives: futures, options and swaps, International macroeconomic policy coordination; introduction to Economic and monetary union in Europe.

International debt crisis: Background and origin of debt crisis, the Mexican moratorium, overall evaluation of debt crisis management; Currency crisis and the East Asian Financial Crisis: First, Second and Third generation models of currency crisis, macroeconomic foundations, analysis of East Asian crisis, An evaluation of IMF programmes; Global financial crisis: Background, deregulation and innovations in the international financial markets, impact on the global economy, restoring financial regulation and oversight.

Readings

1. Pilbeam, Keith (2006): *International Finance*, Palgrave Macmillan, New York.
2. Salvatore.S(2016), *International Economics*, Wiley.
3. Grath. A (2008), *International Trade and Finance*, London.
4. Levi.D.M (2005), *International Finance*, Routledge, London.
5. Gandolfo(2002), *International Finance and Open-Economy Macroeconomics*, Springer, Tokyo.
6. Bishop.E(2004) *Finance of International Trade*, Elsevier, New York.
7. Connolly.M.B (2007) *International Business Finance*, Routledge, New York.
8. Hansanti. S and Islam. S. M. N(2008)*International Finance in Emerging Markets: Issues, Welfare Economics Analyses and Policy Implications*, Physica-Verlag Heidelberg

Module 1: Pattern, Trends and Reforms of Taxation

Pattern and trends of Central Government taxes, revenue performance of central taxes., Non tax revenues, Inter-state analysis of state taxes, Direct tax and indirect tax reforms in India, Tax reforms (Chelliah Committee), Advisory group on tax policy and tax administration for tenth plan, Kelkar committee on direct and indirect taxes, tax reforms suggested by twelfth Finance commission, State VAT, Goods and Services tax reforms, pattern, Performance and recent developments in GST

Module 2: Structure of Expenditure, Management and Issues

Composition and trends of combined expenditure, Central government expenditure, state government expenditure. Designing optimal government expenditure policy, Expenditure outcomes, social sector expenditure, subsidies, Revenue and capital expenditure, shifts towards productive capital expenditure, Expenditure management and reforms, pension reforms, subsidy reforms.

Fiscal Policy and Macroeconomic Management: Budget and procedures, Pattern of Deficits, deficit financing, Public Debt, Debt management and sustainability, Solvency of public sector, FRBM and Rule based fiscal policy.

Module 3: Issues in Fiscal Federalism and Transfers in India

Constitutional provision and Vertical assignment, Changing Dynamics of Horizontal and vertical fiscal imbalances, Design of Federal fiscal transfers in India, Political economic aspect of federal transfers, Pattern, trends and major issues in federal fiscal transfers India, equity and efficiency, Role of Finance commission and other resource mediating agencies, Assignment of weights and criteria for tax devolution. Issues of Implicit transfers. Issues in transfers to Local government

.Reading

1. Atkinson, A. and Stiglitz, J., Lectures in Public Economics, McGraw Hill, 1980
2. Oates, E. Wallace, Fiscal federalism, Harcourt brace Jovanovich, New York, 1972
3. Boadway, Public Sector Economics, Cambridge University Press, 1979
4. Aurebach, A. and Feldstein, M., Handbook of Public Economics, Vol. 3, North Holland, 2002
5. Rao, M Govinda. Studies in Indian Public Finance, Oxford University Press, 2022
6. Srivastva, D.K. Issues In Indian Public Finance, New Century Publication, 2005
7. Chelliah, R.J., Towards Sustainable Growth: Essays in Fiscal and
8. FinancialSectorReforms in India, Oxford University Press, 1996
9. Govinda Rao M. and T. K. Sen, Fiscal Federalism in India: Theory and Practice, 1996
10. Rao, M Govinda and Nirvikar Singh, 2005, The Political Economy of Federalism in India , Oxford University Press,
11. Srivastava, D. K. (Ed.) Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission, NIPFP and Har-Anand, 2001
12. Shome, P. (Ed.) Handbook of Indirect Taxes, IMF Publications, 1996
13. Srivastava, D.K., T.K. Sen et al. Government Subsidies in India, NIPFP, 1997

Module 1: Linear and Non-linear Programming

Linear programming: Concept and formulation, Graphical method – Finding of extreme points and Optimal Extreme, Simplex method – Big M and Two-phase method, Cases of unbounded region and infeasible solution in graphical and simplex method, Duality, Economic interpretation of a Dual and shadow price, Non-linear programming – its nature, Kuhn-Tucker conditions - Constrained qualification, Kuhn-Tucker sufficiency theorem –Arrow-Enthoven Sufficiency theorem. Economic applications.

Module 2: Unconstrained and Constrained Optimization

Relative maximum and minimum, First derivative test, Second and higher derivatives – Second derivative test, Nth derivative test for Relative Extremum of a Function of One Variable, Extreme values of a Function of Two or more variables – Second order condition – Hessian matrix and interpretation, Second-order Conditions in Relation to Concavity and Convexity, Effects of a Constraint in Optimization, Second order conditions, Quasi concavity and Quasi convexity – Utility maximization and Consumer demand, Least-cost combination of inputs.

Module 3: Game Theory

Introduction to Game Theory – concepts and types of games, zero sum games with saddle point and mixed strategies, Games with perfect information: Nash Equilibrium, Strategic games – Prisoner's dilemma, matching pennies, Best response functions, Dominated strategies, Cournot's model of Oligopoly – Bertrand's model of oligopoly – Mixed strategy equilibrium – Games with Imperfect Information.

Readings

1. Chiang, A.C. & Wainwright, K. (2005). *Fundamental Methods of Mathematical Economics*, 4th edition, McGraw Hill.
2. Sharma, J. K. (2017). *Operations Research Theory and Applications*, 6th edition, Trinity Press.
3. Osborne, M., (2004): *An Introduction to Game Theory*, Oxford University Press.
4. Sydsæter, K. & Hammond, P. (2012). *Essential Mathematics for Economic Analysis*, 4th edition, Pearson.

Module 1: Public Economics, Government and theory of Public Goods

Introduction to Public economics, Role of state, Market verses Government, Public goods and externalities, merit goods, Samuelson theory, free rider problem, median voter theorem, theory of rent seeking.

Module 2: Theory of Taxation and Expenditure

Theory of taxation, Efficiency and equity, dead weight loss, Optimal taxation, measuring progressivity and effect of taxation, Tax reforms.

Determining optimal size of government, Growth of expenditure, theories of expenditure, financing of public expenditure: debt versus tax financing, impact of public expenditure on the level and composition of output, designing optimal government expenditure policy: issues of size and composition, designing subsidy policy: health and education expenditure policy in India.

Module 3: Federal Fiscal relations and Fiscal Policy Issues

Theory of fiscal federalism, Vertical assignment, Horizontal and vertical fiscal imbalances, Federal fiscal transfers, issues of equity and efficiency, designing equalization transfers, conditional and unconditional grants, fiscal federalism in India: transfer mechanisms, role of Finance commission and other resource mediating agencies, Issues of Implicit transfers.

Budget deficit and public debt: Keynesian, neo-classical, and Ricardian equivalence, debt dynamics and sustainability, Fiscal policy and objectives, interdependence of fiscal and monetary policies, Rule based fiscal policy and budget management.

Readings

1. Atkinson, A. and Stiglitz, J., Lectures in Public Economics, McGraw Hill, 1980
2. Oates, E. Wallace, Fiscal federalism, Harcourt brace Jovanovich, New York, 1972
3. Hillman A. L., Public Finance and Public Policy, Cambridge University Press, 2003
4. Richard, A Musgrave and P.B. Musgrave, Public finance in Theory and Practice, McGraw Hill,
5. Boadway, Public Sector Economics, Cambridge University Press, 1979
6. Auerbach, A. and Feldstein, M., Handbook of Public Economics, Vol. 3, North Holland, 2002

7. Chelliah, R.J., Towards Sustainable Growth: Essays in Fiscal and Financial Sector Reforms in India, Oxford University Press, 1996
8. Govinda Rao M. and T. K. Sen, Fiscal Federalism in India: Theory and Practice, 1996
9. Srivastava, D. K. (Ed.) Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission, NIPFP and Har-Anand, 2001
10. Shome, P. (Ed.) Handbook of Indirect Taxes, IMF Publications, 1996
11. Srivastava, D.K., T.K. Sen et al. Government Subsidies in India, NIPFP, 1997

1. Introduction to Risk Management

Sources of risk, currency risk, fixed income risk, equity risk, commodity risk, market risk measurement, VaR as downside risk, definition, parameter, elements of VaR system, stress testing.

2. Hedging and Credit Risk Management

Hedging liner risk, optimal hedging, hedge ratio as regression coefficient, duration hedging, beta hedging, non-linear risk hedging, delta and dynamic hedging, Settlement risk, introduction to credit risk, measuring credit risk, credit exposure, types of credit derivatives, credit default swap, pricing and hedging credit derivatives, measuring credit VaR, credit risk models, Basel accord, the Basel market risk charges.

3. Operation & Integrated Risk Management

Introduction to operational risk, identifying operational risk, managing operational risk, risk capital, RAROC, risk capital, RAROC methodology, legal accounting, tax risk management.

Readings

1. Jorion, P. *Financial Risk Manager Handbook*, Wiley, 2002
2. Holton, G.A. *Value-at-Risk- Theory and Practice*, Academic Press, 2003
3. Alexander, C. *Market Models: A Guide to Financial Data Analysis*, Wiley 2004
4. Dubofsky, D.A. and Miller, T.W. *Derivatives: Valuation and Risk Management*, OxfordUniversity Press, 2003.

Module 1: Basic Concepts and Univariate Time Series Models

Stochastic process, white noise process, stationary and non-stationary stochastic process – difference stationary and trend stationary process, concept of unit root, tests for detecting unit root– dickey-fuller test, augmented dickey-fuller test, testing for unit roots in panel data. Autoregressive (AR) model, Moving Average (MA) model, ARMA, ARIMA and SARIMA models, Box Jenkins Methodology – model identification, diagnostics, forecasting – dynamic vs static forecasts.

Module 2: Multivariate Analysis

Concept of Spurious regression – problems associated with spurious regression, concept of cointegration and testing for cointegration – Engle Granger and Johansen-Juselius methodologies, multi-cointegration and multiple cointegration, error correction model, Panel cointegration and error correction models, ARDL approach – testing cointegration among mix of I(0) and I(1) variables using bounds test
Structural equations modelling – VAR models – primitive system, VAR in standard form, identification, lag length selection, factorization – Cholesky decomposition and structural factorization, Causality tests in VAR framework, Innovation accounting – impulse response functions, variance decomposition.

Module 3: Modelling high frequency data

Modelling high frequency data – problems associated with high frequency data – presence of autocorrelation and heteroskedasticity, testing for ARCH effect, estimating ARCH models – ARCH, GARCH, ARCH – M, TARCH, EGARCH, diagnostic checks

Readings

1. Walter Enders (2015), Applied Econometric Time Series, 4th Edition, Wiley.
2. Kerry Patterson (2000), An Introduction to Applied Econometrics, Palgrave Macmillan.
3. James D. Hamilton (1994), Time Series Analysis, Princeton University Press.
4. Chris Brooks (2002), Introductory Econometrics for Finance, Cambridge University Press

ECONM419: URBAN ECONOMICS

Credit 4

Module 1: Introduction to Urban Economics and Market Forces

What is urban economics? what is a city? 5 axioms of urban economics, opportunity cost, comparative advantage, development of a factory town, firm clustering, labor pooling, localization and urbanization economies, differences in city sizes, urban employment growth and the multiplier.

Module 2: Land Rent, Land-Use Patterns, and Urban Transportation

Monocentric city, labor and transportation costs, urban sprawl, diversity, income segregation, demand for public goods, neighborhood externalities, neighborhood choice model, education production function, causes and consequences of segregation, urban growth control.

Auto congestion, congestion tax, air pollution, vehicle collisions, mass transit, public policies to internalize the externalities from autos, individual modal choice decisions, effects of urban form on mode choice

Module 3: Economics of Housing

Heterogeneity of housing, hedonic determination of equilibrium prices, durability and optimal maintenance level, moving costs, social welfare from public housing, policy alternatives to public housing.

Readings

1. Arthur O'Sullivan (2012) "Urban Economics" McGraw-Hill Irwin (Eighth Edition).
2. Edward Glaeser (2011) "Triumph of the City" The Penguin Press.
3. Jan K Brueckner (2011) "Lectures on Urban Economics" MIT Press
4. Enrico Moretti (2013) "The new Geography of Jobs" Mariner Books.

Skill Based /Vocational Courses

ECONV001: DATA ANALYSIS AND VISUALIZATION USING EXCEL

Credit 3

MODULE 1: Application of Excel – Basics, Shortcuts, and Functions

Excel – Pros and Cons; Data Sources; Reading data in Excel using various formats; Transforming data; Basic functions in Excel, arithmetic as well as various logical functions; Formatting rows and columns; Using formulas in Excel and their copy and paste using absolute and relative referencing; Filter and Sorting; Linking Excel workbooks; Importing image to excel; Introduction to Pivot tables and charts.

MODULE 2: Data Analysis and Reporting

Role of a Data Analyst; Summary statistics; Growth rates – Linear and Log-linear; Forecasting vis-à-vis Prediction; Correlation; Regression; ANOVA; Solver - Linear Programming; Index construction – Price index, Vulnerability index; Development index; Introduction to macros; Markov-Chain analysis; What-if Scenario analysis; Goal seeking analysis; Preparation of tables for reporting.

MODULE 3: Data Visualization and Reporting

Decision criteria; Basic charts – Line, histogram, bar, pie, scatter, area, clustered bars, etc. (2D and 3D visuals); Add-ons in Excel; Modern charts – Bubble (3D), Stock, Tree, Funnel, Waterfall, Box & Whisker, Gantt, Doughnut, etc.; Conditional formatting to monitor the Key Performance Indicators (KPI); Interactive charts; Introduction to infographics; Maps – geography, heat; Dashboard preparation; Reporting.

Reading

1. Guerrero H (2019). Excel Data Analysis: Modeling and Simulation. Springer.
2. Jelen B and Syrstad T (2022). Microsoft Excel VBA and Macros (1st Edition). Microsoft Press.
3. Kusleika D (2021). Data Visualization with Excel Dashboards (1st Edition). Wiley Publishers.
4. Winston W (2021). Microsoft Excel Data Analysis and Business Modeling (7th Edition). Microsoft Press.

Module 1: Entrepreneurship and Development

Concept and definition of entrepreneurship-difference between entrepreneur and entrepreneurship- digital entrepreneurship- entrepreneurs in developing countries- major determinants of entrepreneurship-types of entrepreneurs-rural entrepreneur- female entrepreneur- functions and role of entrepreneurs in an economy- entrepreneurship and economic development-role of entrepreneur in employment generation and eradication of poverty.

Module 2: Theories of Entrepreneurship

Theories of entrepreneurship: an overview- early theories of entrepreneurship- the occupational choice model of entrepreneurship-I (homogeneous agents model)- the occupational choice model- II (heterogeneous ability-the Lucas model)- the occupational choice model- III (heterogeneous risk attitudes- the Kihlstrom and Laffont model-macroeconomic theories of entrepreneurship and growth.

Module 3: Problems and institutional support

Common problems of entrepreneurs in developing countries- problems of women entrepreneurs- problems of rural entrepreneurs- major EDPs and Policies- Role of finance in entrepreneurship- types of finance for entrepreneurship development- major financial institutions- role of Industrial Finance Corporation of India-The Industrial Credit and Investment Corporation of India-The Industrial Development Bank of India-Entrepreneurship development institute- District Industrial Centre and Entrepreneurship Development. Trend and development of entrepreneurship in 1990s and 2000s- role of agencies: governments, NGOs and community-based organizations, impact of COVID-19 on the entrepreneurship development in India.

Readings

1. Parker.C.Simon (2009), The Economics of Entrepreneurship, Cambridge University Press, New York.
2. Khanka. S.S (2020), Entrepreneurial Development, S.Chand & Company, New Delhi.
3. Anil Kumar (2003), Entrepreneurship Development, New Age International, New Delhi.
4. Sangeeta (2021), Entrepreneurship Development, Eastern Economy Edition.
5. Sanjay R. Ajmeri, (2021), Entrepreneurship Development, Eastern Economy Edition.
6. Debasish Biswas & Chanchal Dey (2021), Entrepreneurship Development in India, Routledge, New York.
7. Haidas Jogdankar (2017), Basics of Entrepreneurship Development, Lulu Publication, United States.
8. Sahebrao B. Ohol (2020), Women Entrepreneurs and Development Entrepreneurship Development, Canadian Academic Publication, Canada.
9. Sanjay & Anshuja (2017), Entrepreneurship Development in India, Canadian Academic Publication, Canada.

ECONV003: FUNDAMENTALS OF ENTREPRENEURSHIP AND PROJECT DEVELOPMENT

Credit 3

Module 1: Entrepreneurial Economics of Decision Making

Entrepreneurship: Types and Traits of an Entrepreneur, Economics and Decision Making, Discovering an Opportunity, Scarcity, Choice Trade-off, Thinking at the Margin, Techniques in Entrepreneurial decision making, Benefits and Potential risks of an entrepreneur. Macroeconomic Theories of Entrepreneurship and Growth: Wealth-Based Theories, Technology-Based Theories and Knowledge-Based Theories. Role of Entrepreneurs on Economic growth and Development.

Module 2: An Economic aspect of Project Identification

Method of Project Identification and Selection, New Ventures and Start-ups, Steps in the Identification of Startups and New Ventures, Essential factors for New Venture Development, Sources of Finance, Environmental Skimming, Pitfalls in assessing and identifying business opportunity.

Module 3: Feasibility Analysis, Crafting and Project Evaluation

Feasibility Analysis: Product, Firm, Industry, Financial, Technical and Operational Feasibility, Importance of Feasibility Analysis, Business Plan: Kinds of Business Plan, Formulating a Business Plan and Project, Errors in formulating a project, presenting a Business plan/proposal.

Readings

1. Simon C. Parker, The Economics of Entrepreneurship, Cambridge University Press, 2nd Edition, 2018.
2. Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd and Sabyasachi Sinha, Entrepreneurship, Mc Graw Hill, 11th Edition, 2020.
3. David H Holt, Entrepreneurship-New Venture Creation, Pearson Education, 1st Edition, 2016.
4. Norman M Scarborough and Jeffrey R Cornwall, Essentials of Entrepreneurship and Small Business Management, Pearson Education, 8th Edition, 2016.

ECONV004: HUMAN RESOURCE MANAGEMENT

Credit 3

Module 1: Human Resource Management and Planning

Nature and Scope – objectives – nature of people and organizations – Personnel policies and principles – Environment of human resource management – social systems – human resource accounting and audit. Human resource/ manpower planning – meaning – process of HR Planning – job analysis – recruitment and selection – orientation and placement – orientation programmes, retention, incentives and rewards to employees.

Module 2: Motives

Human needs – theories of motivation – Maslow's Hierarchy needs – Herzberg's two factor model – other theories – Behavioral modification – motivational patterns – expectancy model – application of motivation concepts.

Module 3: Leadership, Communication and Counselling

Nature of leadership behavior – leadership style – employee participation – nature, scope programmes and benefits of participation – employee communication process – communication systems – employee counselling and types.

Readings

1. Michael V. P. (1998), Human Resource Management and Human Relations, Himalaya Publishing House, New Delhi .
2. M. N. Rudrabasavaraj (1998), Cases in Human Resource Management, Himalaya Publishing House, New Delhi.
3. H. John Bernardin and Richard W. Beauty (1984), Performance Appraisal: Assessing Human Behaviour at Work, Kent, Boston.
4. George T. Milkovich and John W. Boudreau (1998), Personal Human Resource Management: A Diagnostic Approach, Ed. Plano, TX Business Publications.

ECONV005: INTRODUCTION TO STATISTICAL SOFTWARE FOR SOCIAL SCIENCES

Credit 3

Module 1: Introduction to Statistical Software

Overview of major statistical software and its interface; Menu bars; Variable and data view and editor; Types of data and arrangement of data for analysis and visualization; Data labeling; Importing data using various formats; Loading and transforming data; Computing new variable; Basic functions, arithmetic as well as various logical functions; Sort cases, sort variables, transpose; Merge files, split files, Creating time series.

Module 2: Data Analysis and Reporting

Custom tables; Frequencies; Descriptive statistics; Bayesian statistics; Crosstabs; Hypothesis testing; Growth rates – Linear and Log-linear; Forecasting vis-à-vis Prediction; Correlation – simple and partial; Linear and non-Linear regression; ANOVA; Significance of variables; Data classification; Syntax, Non-parametric tests; Reliability test; Multiple imputations; Introduction to simulation; Export of tables for reporting.

Module 3: Data Visualization and Reporting

Chart builder; Basic charts – Line, histogram, bar, pie, scatter, area, clustered bars, population pyramid, etc. (2D and 3D visuals); Box & Whisker, Error bar; Regression variable plots; Regression tree; Dashboard preparation; Quality control – Control charts, Pareto charts; Export of charts for reporting.

Readings

1. Llaudet E and Imai K (2023). Data Analysis for Social Science: A Friendly and Practical Introduction. Princeton University Press. ISBN: 9780691199429
2. Norris G, Qureshi F, Howitt D, and Cramer D (2012). Introduction to Statistics with SPSS for Social Science. Pearson Publishers. ISBN: 1408237598
3. Agresti A (2018). Statistical Methods for the Social Sciences. Pearson Publishers. ISBN: 9781292220314
4. Shankar AH and Braj B (2016). Statistics for Social Sciences (With SPSS Applications). PHI Learning Private Limited. ISBN: 8120352483

Module 1: Survey Methodology

Meaning, nature, scope and importance of field survey, Forms of survey-Cross-sectional, longitudinal surveys and qualitative survey, Modes of administering surveys and merits and demerits.

Module 2: Techniques of Field Survey

Qualitative and quantitative methods of field survey. Interview methods - Key informants' interviews, In-depth interviews, Observation Methods, Case studies, Focused Group Discussion (FGD). Sample design & sampling error, Sampling techniques, Questionnaire construction, essentials of a questionnaire, writing questions, evaluating questions, Response rates & nonresponse error, Understanding, reading and making model questionnaires.

Module 3: Implementing Survey and Group Projects and Field Work

Survey interviewing, alternative questionnaire delivery, ethical issues, methods for improving the number and accuracy of responses to surveys, post-collection processing of survey data, interpretation.

A survey research project, identifying research problem, designing survey tools and conducting a field survey.

Readings

1. Dillman, D. A. (2006). Mail and internet surveys: The tailored design method (2nd ed.). New York: John Wiley and Sons
2. Groves, R. M., Fowler, F. J. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2004). Survey methodology. Hoboken, NJ: Wiley-Interscience.
3. Stimpson, Robert J. (2014) Handbook of Research Methods and Applications in spatially integrated Social science, Northampton: Edward Elgar
4. Stage, Farnes K. and Kathleen Manning (2016), Research In the College Context: Approaches and Methods, New York: Routledge

Module 1: Application of Statistical Software-I

Statistical softwares: a quick walk-through - role of statistical softwares in employability in the fashionable world- introduction on software – installing (recent version) - basic options in menu bar- creating a workfile - importing data in different formats- entering data in worksheet-preparation of workfile for daily, weekly, monthly and annual data- illustrative data analysis-reading variables and its features- data visualization- some analytical models..

Module 2: Data analysis and application of software-II

An overview- similarity and dissimilarity between softwares- installing (recent version) - an introduction on basic options- entering data- exporting data for analysis- file and data management- working with commands, do-files and results- descriptive statistics and graphs for single and multiple variables- data visualization: introduction on editor, options and styles- some basic models.

Module 3: Combo of Modern Software

A brief introduction to open software- R- the R environment- installation- introduction to R commander- basic options and commands- getting data into R- descriptive statistics for single and multiple variables- exploring data with graphs: GGLOTS2- Tableau and use of open software: an overview- installation- basic options- preparation of data for tableau- descriptive statistics-introduction to maps for data visualization. Introducing other basic open source softwares.

Readings

1. Chris Brooks and Robert Wichmann (2019) *Eviews Guide to Accompany Introductory Econometrics for Finance*, Cambridge University Press.
2. IGN Agung (2011) *Time series data analysis using Eviews*, Wiley, USA.
3. Alan. C. Acock (2014), *A Gentle introduction to Stata*, A State Press Pub, Texas.
4. Michale N. Mitchell (2012), *A Visual Guide to Stata Graphics*, A State Press Pub, Texas.
5. Rabe-Hesketh and Everitt (2021), *A Handbook of Statistical Analyses using Stata*, Taylor & Francis. London.
6. Andy Field (2012) *Discovering statistics using R*, Sage, Los Angels.

Interdisciplinary/Multidisciplinary Minor

ECONI001: BASIC ECONOMIC CONCEPTS AND MEASUREMENT

Credit 3

Module 1: Principles of Economics

Economic problems – Economics and household management – Scope of economics - Optimization with constraints in economic analysis - Ten basic Principles of Economics - Microeconomics vs Macroeconomics – Normative and Positive Economics - Economic systems.

Module 2: Concepts in Microeconomics

Basic concepts and measurement in consumer analysis: Utility, tastes and preferences, types of goods, income, wealth, prices of goods and services, budget constraint, indifference curve, utility maximization, elasticity – Basic concepts and measurement in producer analysis: Labour, Capital, technology, factor productivity, revenue, cost, profit, returns to scale, economies and diseconomies of scale, - Different market structure and market Equilibrium - Market imperfections and externalities.

Module 3: Concepts in Macroeconomics

Measurement of standard of living and national income accounting – circular flow of income - major socioeconomic indicators, cost of living indicators – key macroeconomic variables: saving, investment, interest rate, money, inflation, balance of payments, foreign exchange rate, labour force and unemployment rate, Evolution of macroeconomic thinking: An overview

Readings:

1. Abel, Bernanke and Croushore, Macroeconomics, Pearson Education, 8th Edition, 2013.
2. Case, K.E. and Fair, R.C, Principles of Economics, Pearson Publisher, 8th Edition, 2013.
3. Dornbusch, R., Fischer, S. and Startz, R. Macroeconomics, Tata McGraw Hill, 12th Edition, 2018.
4. Gregory Mankiw, Principles of Economics,
5. Samuelson and Nordhaus, Economics, TATA McGraw Hill, 20th Edition, 2019

Module 1: Development Phases of Indian Economy

State of the economy at independence, understanding key sectors of Indian Economy: Primary, secondary and tertiary sector and structural transformations since independence, policy of planned development and Five Year Plans (FYPs) – planned vs non-planned phase, new economic policy – liberalisation, privatisation and globalisation, structural transformation in the performance of economy since 1991, major aspects of transformation and recent developments.

Module 2: Aspects of Transformation across Sectors

Agricultural Productivity – causes of low productivity and regional variations, Green Revolution – achievement and failures, agricultural labour market and government schemes, recent deceleration of agricultural growth and public investment in agriculture, Industrial policy and industrial growth, Indian industry since liberalisation – productivity growth and rise in export competitiveness — rise of service industry – IT sector, disinvestment and privatisation, issues facing small scale sector and unorganized sector, industrial relations and labour welfare, state of infrastructure – reforms, restructuring, pricing and regulation, investment requirement of key sectors, policy initiatives to bridge the gaps – allowing FDI and PPP mode.

Module 3: Social Sector and Development

Population and Development – population growth and demographic dividend, dimensions of human development – education, health and per-capita income, Human Development Index, poverty, unemployment, income inequality, Gender Development Index, Multi-dimensional poverty Index, poverty alleviation measures, environmental issues and sustainable development. Macroeconomic policies and development, review of recent Union budget and economic survey.

Suggested Readings:

1. Datt, G. & Mahajan, A. (2023). Indian Economy By Datt And Sundaram, Latest edition, S Chand.
2. Kapila, U. (2022). Indian Economy: Performance and Policies, latest edition, Academic Foundation.
3. Karuppiyah, S. (2022). Indian Economy -Key Concepts, Latest edition, McGraw Hill.
4. Drèze, J. & Sen, A. (2002), India: Development and Participation, Oxford University Press.
5. Basu, K. (2004). India's Emerging Economy: Performance and Prospects in the 1990s and Beyond, MIT Press.
6. Government of India. (nd). Union Budget, <https://www.indiabudget.gov.in/>

Module 1: Exploring the Subject Matter of Economics

Why to study economics? – scope of economics, positive vs normative economics, economic problems: scarcity and choice, question of what to produce, how to produce and how to distribute output, science of economics – the basic competitive model – prices, property rights and profits: incentives and information, rationing – opportunity sets, economic systems.

Module 2: Basic Building Blocks of Economics

Scope of Microeconomics, Demand and Supply Curve – determinants and market equilibrium, basic concepts of elasticity, concepts of choice in microeconomic theory – utility, law of diminishing marginal utility and equi-marginal utility, consumption decision – indifference curves and budget constraint, consumer equilibrium, idea of opportunity cost, factors of production and production possibility curve, choice between leisure and consumption – labour supply, labour force participation, tax policy and labour supply, human capital and education, introduction to market forms – perfect competition, monopolistic competition, monopoly and oligopoly – price and output determination in different market forms, Production and cost.

Module 3: Working of an Economy

Roots of macroeconomics, Circular flow of Income, concepts and measurement of key macroeconomic variables – national income, prices & inflation, unemployment, nominal vs real variables, components of Aggregate Demand, business fluctuations, concept of money and monetary policy, market failure and need of Government – fiscal policy – concept of debt and deficits, components of Balance of Payments and determination of exchange rate, issues on development – poverty, inequality and environment

Suggested Readings:

1. Case, K. E., Fair, R.C. & Oster, S. E. (2017). Principles of Economics, 12th edition, Pearson.
2. Mankiw, N. G. (2018). Principles of Economics, 8th edition, Cengage.
3. Stiglitz, J.E. & Walsh, C.E. (2006). Principles of Economics, 4th Edition, W.W. Norton & Company.
4. Hayne, P. (1998). Economic Way of Thinking, Prentice Hall.

Community Engagement and Service

ECONR001: COMMUNITY ENGAGEMENT AND SERVICE

Credit 2

Module 1: Rural Society and Rural Institutions

Dynamics of Rural Society: Social, Economic, political and cultural
Engagement with School/ Street/Health Centre/ Panchayat/ SHGs

Module 2: Resource Mapping and Disaster Management

Natural and Human Resource Mapping and Management
Disaster Preparedness- Risk Reduction Role and Responsibilities Rehabilitation: Physical and Psychological aspects

Module 3: Close to Community and Professional Intervention

Awareness: Health & Hygiene/ Rights / Policies & Programmes/ Corruption
Partnership with public , Private and non-governmental organizations

Suggested Readings:

1. Thomas Nixon Carver (2016), *“Principles of Rural Economics”*, Ginn and Company
2. Frank Ellis and H.Ade Freeman (2005), *“Rural Livelihoods and Poverty Reduction Policies”*, Routledge.
3. Study material available at: <http://www.mgncre.org/pdf/Rural%20Engagement%20Material.pdf>

Practicum Details

Every Saturday or continuously for two weeks, students are expected to be engaged in the rural community to take up the following activities for developing field perspective on rural resource management, issue-based work and complex emergencies. The students are mandatorily required to engage in on-going Disaster Risk Reduction/Response programmes in the respective locations.

1. Interactive Awareness programs with community experts and village leaders with PRA.
2. Interactive community exercise with community experts and village leaders on Village Development Planning.
3. Involving students in the literacy programmes of selected village.
4. Conducting training programmes with Self-Help Groups and government officials for training in different vocations and developing skills.
5. Conducting information collection, collation and use (Data Management) workshops with the help of school resources of the selected villages and Self Help Groups.
6. Identifying the committees and establishing the committees with the help of village level officers.
7. Establishing village networks with the help of village level officers and district officials.
8. Conducting / facilitating health camps and campaigns.
9. Reporting the health concerns of the villagers, drainage system of the village and health habits of the villagers to the concerned authorities and facilitating address of these concerns.
10. Organizing orientation on preparing a system for community plantation management and community water management.
11. Creating awareness about the climatic change hazards in the villagers and inputs on how to address the same.
12. Organizing awareness programmes relating to water, soil fertility management, energy management.

Assessment

1. This is a two credit add-on course, with one-hour theory class and one practical class of two hours per week for one semester
2. Focus will be on engaging in study and capacity building for promoting the rural community resilience to disaster risks and climate change and assumption of eco responsibility.
3. The emphasis is more on the practical orientation of the student.