



**Birla Institute of Technology & Science, Pilani**  
Hyderabad Campus

## **SECOND SEMESTER 2018-2019**

### Course Handout Part II

Date: 07/01/2019

In addition to part-I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course No. : ECON F411  
Course Title : Project Appraisal  
Instructor-in-Charge : Dr. Sunny Kumar Singh  
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### **Scope and Objective of the Course:**

In India, large sums have been spent on a number of projects both in the private and public sectors which have contributed to economic growth of the country. Hence, project appraisal and financing have become very important area in the quest for growth. Given its importance, the objective of the course is to introduce the students to the various aspects of project planning, financing, appraisal, and control. The main focus is to understand key steps of the capital investment process like – defining the project, appraisal parameters, underlying assumptions, and consideration of the key variables affecting the viability of a project. Further, students are expected to gain a thorough understanding of the tools and techniques used in project appraisals and appreciate the issues in project appraisal as well as the adaptation of the model to real world corporate decision-making: evaluating projects of different lives, replacement choices, investment timing decisions and capital rationing. Other topics discussed will include managing uncertainty and risk in project cash flows where techniques such as sensitivity, scenario and break-even analysis are used.

### **Textbooks:**

1. Chandra P., “Projects: Planning Analysis, Selection, Implementation & Review”, Tata McGraw-Hill New Delhi, 2014 (Eighth Edition). (T1)

### **Reference books**

1. Rogers, Martin & Duffy, Aidan, “Engineering Project Appraisal”, Wiley-Blackwell, 2012 (Second Edition). (R1)
2. Class notes (Public and Private Sector Reports on Various Projects; Case Studies; Newspaper Articles etc.)



## Course Plan:

Lecture No.	Learning objectives	Topics to be covered	Chapter in the Text Book
1-4	<b>Decision Making and Project Appraisal:</b> The students are expected to understand – the concept of capital investment and capital budgeting; important facets of project analysis; different types of strategy and how they are formulated; various tools of portfolio planning; the popular tools helpful in identifying promising investment opportunities; the key aspects to be considered for a preliminary screening of investment ideas.	Capital Investments; Capital Budgeting; Levels and Techniques of Decision Making; Project Planning Process; Strategy and Resource Allocation; Generation and Screening of Various Investment Projects	T1 (Ch. 1-3); R1 (Ch. 1), Class Notes
5-8	<b>Market and Demand Analysis:</b> The students are expected to understand – basics of demand-supply analysis used in managerial decision making; various steps in a sample survey; various methods of demand forecasting under certainty and uncertainty; how the market plan for a new product is prepared.	Role of Demand Analysis in Managerial Decision Making; Situational Analysis; Conducting Market Survey; Demand Forecasting Techniques	T1 (Ch. 4), Class Notes
9-12	<b>Technical and Financial Analysis of a Project:</b> The students are expected to understand – the various material inputs and utilities required for a project; the factors that have a bearing on the capacity decision; the inter-linkages among the key facets of a project; Key elements of a project cost; means of finance available for financing a project; Major components of cost of production; Profitability projections; Projected cash flow	Manufacturing Process/Technology; Product Mix; Plant Capacity; Project Chart and Layouts; Schedule of Project Implementation; Cost of Project and Means of Finance; Sales and Production Estimates; Production Cost; Profitability Projections; Projected Cash Flow Statement and Balance	T1 (Ch. 5-6), Class Notes



	statements and projected balance sheets.	Sheet; Financial Modeling using Spreadsheets	
13-18	<b>Financial Appraisal of a Project:</b> By the completion of these lectures, students will be able to describe the basic concepts that are essential for carrying out financial appraisal of different projects. Students will be equipped with skills required to compute time value of money, present worth, minimum acceptable rate of returns (MARR), and internal rate of return (IRR). Further, students will be able to calculate project cash flows and conduct cost benefit analysis of a project. This module will enable the students to employ different techniques of project appraisal that aid in financial evaluation of projects.	The Time Value of Money (Present Value and Future Value of a Single Amount/ an Annuity); Investment Criteria (NPV, IRR, Profitability Index, Payback Period, Accounting Rate of Return etc.); Project Cash Flow	T1 (Ch. 7-9); R1 (Ch. 2-6) Class Notes
19-21	<b>The Cost of Capital:</b> The students are expected to – Distinguish between company cost of capital and project cost of capital; Calculate cost of debt and equity by various methods; Determine weighted marginal cost of capital schedule; Describe the determinants of cost of capital.	Cost of Debt; Cost of Equity – CAPM and other approach; WACC; Determining Optimal Capital Budget;	T1 (Ch. 10), Class Notes
22-25	<b>Analysis of Project Risk:</b> The students are expected to – Describe the source, measures, and perspectives on risk; Explain various techniques of risk analysis like sensitivity analysis, scenario analysis, break-even analysis, Simulation Analysis; decision tree analysis; Describe various	Measuring Risk; Sensitivity Analysis; Scenario Analysis; Break-even Analysis; Simulation Analysis; Decision Tree Analysis; Project Selection under Risk	T1 (Ch. 11), Class Notes

	strategies employed in managing risk.		
26-30	<p><b>Social Cost-benefit Analysis:</b> By completion of these lectures, students will be able differentiate between social and monetary cost-benefit by applying UNIDO method of project appraisal. They will learn how prices of various resources are calculated. Also, they will be able to explain how adjustment is made for merit and demerit goods while calculating the prices, understand the meaning of Economic Rate of Return, Effective Rate of Protection and Domestic Resource Cost. At last, they will understand the key steps involved in the public investment decision making process in India.</p>	Rationale for SCBA; UNIDO Approach; Little-Mirrlees approach; SCBA by Financial Institutions: Public Sector Investment Decision in India	T1 (Ch. 14), Class Notes
31-34	<p><b>Cost-benefit Analysis of Public Projects:</b> By completion of this module, students will be able to carry out economic appraisal of the projects that are undertaken by government agencies. Further, they will learn the processes and steps involved in the economic appraisal of the public-sector projects. Student will be able to compute the direct net economic benefit from variety of developmental project that are funded by the public agencies. Students will be able conduct social cost and benefit analysis of public projects. They will learn about the steps involved in the process of funding of public projects in India.</p>	Theoretical basis and Procedure of Cost-benefit Analysis; Case studies on public projects like Delhi Metro, Water Supply, Highway Improvement, Sewer Flooding Alleviation	R1 (Ch. 7), Class Notes

35-38	<b>Multiple Projects and Constraints:</b> By completion of these lectures, students will be able to discuss the nature of constraints which characterize capital budgeting. In the process, they will be able to learn linear programming model, integer linear programming model and goal programming model.	Linear Programming; Integer Linear Programming; Goal Programming	T1 (Ch. 15), Class Notes
39-42	<b>Group Presentations</b>	TBA	TBA

#### Evaluation Scheme:

Component	Duration	Weightage (%)	Nature of Component
Mid-term Exam	1.5 hrs.	30%	Closed Book
Group Projects	TBA	20%	Open Book
Quizzes	TBA	10%	Closed Book
Compre. Exam	3 hrs.	40%	Closed Book (20%) Open Book (20%)

**Chamber Consultation Hour:** TBA.

**Notices:** All notices will be displayed on CMS and Economics & Finance Notice Board.

**Make-up Policy:** Make-up will be given only on Doctor's/Warden's recommendation and with prior (at least 01 days before the test/exam) permission of the Instructor in Charge/Instructor. Request for makeup made by phone/SMS or during/after the test/exam would **NOT** be entertained at all.

**Academic Honesty and Integrity Policy:** Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

**INSTRUCTOR-IN-CHARGE  
ECON F411**

