



**INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR**  
**FN604: Security Analysis and Portfolio Management**  
**PGDM 2019-21 Term V**  
**CREDIT: Full (3 credits)**  
**SESSION DURATION: 60 Minutes**

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**Course Introduction:** This course aims to provide an in-depth knowledge of techniques of valuing stocks and bonds and of use of fundamental and technical analysis in taking investment decisions. The students will learn to develop an understanding of how to optimally allocate funds across alternative (risky) asset classes (e.g., stocks, bonds, etc.) to form an optimal portfolio and how to optimally allocate wealth between the optimal risky portfolio and a risk-free asset (such as the Treasury-bill).

**Pedagogy**

The course will be delivered through a mix of lectures and real-life assignments involving thorough analysis and presentations. Exercises will be based on excel.

**Learning Outcomes**

- To measure risk and performance in the context of an efficient portfolio and make asset allocation decisions (LO 1)
- To understand risk aversion and apply the principles to portfolio construction. (LO 2)
- To understand diversification and be able to create a well-diversified portfolio. (LO 3)
- To understand macro trends, risk premiums, and the implications for the construction of a global portfolio. (LO 4)
- To acquire familiarity with a variety of financial instruments (bonds, options, futures, and forwards, among others) (LO 5)
- To measure portfolio performance. (LO 6)

**Evaluation Criteria:**

Item	Weightage (%)	Learning Outcome(s)
Project (Group of 2 each)	20% (MT 5%; ET 15%)	LO 3, LO 4, LO 6
Quiz	10% (Average will be considered)	LO1, LO3, LO5
Report Writing	30%	LO1, LO3, LO5
End Term Examination	40%	LO1 to LO 6

**Readings:**

Investments, Eighth Edition, Bodie, Zvi, Alex Kane, *TMH* (Referred to as BKM)

## Session Plan

Session No.	Topic	Learning Outcome	Readings
1	Matrix algebra for portfolio management <ul style="list-style-type: none"> <li>• Vectors</li> <li>• Matrix multiplication</li> <li>• Inverse</li> </ul>	LO 1	
2-3	Overview of risk and return		BKM Ch.5
3-4	Analysis of Bonds <ul style="list-style-type: none"> <li>• Bond Features</li> <li>• Term Structure of Interest Rates</li> <li>• Pricing of Bonds</li> </ul>		BKM Ch. 14
5-7	Managing Bond Portfolio <ul style="list-style-type: none"> <li>• Interest rate Risk</li> <li>• Duration of a bond</li> <li>• Convexity</li> <li>• Immunization</li> </ul>	LO 5	BKM Ch. 16
8-12	Optimal Portfolios and Portfolio Diversification <ul style="list-style-type: none"> <li>• Two asset and multi asset case</li> <li>• Capital Allocation Line</li> <li>• The Efficient Frontier</li> <li>• Index Models</li> </ul>	LO 5	BKM Ch. 6-8 Case: Dimensional Fund Advisors
13-15	The Capital Asset Pricing Model	LO 3	
16-17	MID TERM PROJECT PRESENTATION		
18-19	Portfolio Optimization – Black Litterman approach		
20-22	Momentum Investment	LO 2	Case: AQR’s Momentum Funds (A&B)
23-24	Event Studies	LO1, LO2	Classroom Discussion
25-26	Technical Analysis <ul style="list-style-type: none"> <li>• Chart patterns (Candlestick)</li> <li>• Technical indicators – RSI, MACD, Bollinger Bands</li> <li>• Moving Average</li> </ul>	LO 3, LO 4	Classroom Discussion
27-28	Measuring Portfolio Performance <ul style="list-style-type: none"> <li>• Sharpe ratio</li> <li>• <math>M^2</math></li> <li>• Treynor Ratio</li> <li>• Jensen’s Alpha</li> </ul>	LO 6	
29-33	Investment Management Process and client objectives	LO1 to LO4	Classroom discussions

33-35	PROJECT PRESENTATION		

**Guidelines for project:** Each student needs to mandatorily undertake a project and make a presentation at the end of the term. Since it is a group project, the contribution of each member needs to be clearly delineated although it is expected that each member should know the project thoroughly. The final report needs to be submitted before the presentation with the following components:

- Title page (format same as that of SIP report)
- Index
- Introduction about the topic (about 500 words)
- Data Source
- Methodology and model used
- Discussion of result
- Conclusion

**Plagiarism:**

We are committed to upholding the highest standards of academic integrity and honesty. Plagiarism is the use of or presentation of ideas, works that are not one's own and which are not common knowledge, without granting credit to the originator. You may refer the already available content just for your reference and to get the basic ideas. Only 20% of such content is acceptable, above that comes under the definition of Plagiarism which is unacceptable in IMI and will be treated seriously. All such cases will be referred to the appropriate body of the Institute for suitable disciplinary action.