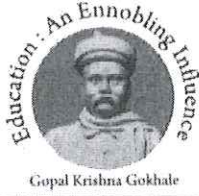


**GOKHALE INSTITUTE OF POLITICS AND
ECONOMICS**

Deemed to be University u/s 3 of the UGC Act, 1956
PUNE 411004

**Institutional programme brochure/notice for Certificate/value-added
programs with course modules and outcomes.**





Gokhale Institute of Politics and Economics

(Founded by Rao Bahadur R.R. Kale, Satara)
(Deemed to be University u/s 3 of the UGC Act, 1956)
846, Shivajinagar, B.M.C.C. Road
PUNE - 411 004 (INDIA)

November 30, 2018

NOTICE

CERTIFICATE COURSE ON COMPUTER APPLICATION IN ECONOMIC ANALYSIS

Gokhale Institute of Politics and Economics (Deemed to be University), Pune, will offer a Certificate Course on Computer Application in Economic Analysis from 02/01/2019. The classes will be held at the Institute only on weekdays after 6:00 pm.

Eligibility: Graduate in any discipline.

For information on application form, rules/regulations etc., please visit www.gipe.ac.in.

Filled application form should be send to admission@gipe.ac.in along with fee receipt of 20,000/- (General/OBC) / 15,000/- (SC/ST/DTNT/VJNT) on or before Friday, 21/12/2018.

Payment of the fee shall be made only through the payments gateway by Debit/Credit Card or Net Banking. [(www.gipe.ac.in → Students → Payment of Fees) (candidate should write their graduation reg. no./ roll no.)].

Suddhasil Siddhanta
Suddhasil Siddhanta

30.11.2018

Faculty & Course Coordinator

Gokhale Institute of Politics and Economics, Pune, India



Gokhale Institute of Politics and Economics

(Founded by Rao Bahadur R.R. Kale, Satara)
(Deemed to be University u/s 3 of the UGC Act, 1956)
846, Shivajinagar, B.M.C.C. Road
PUNE - 411 004 (INDIA)

January 20, 2020

NOTICE

CERTIFICATE COURSE ON COMPUTER APPLICATION IN ECONOMIC ANALYSIS

Gokhale Institute of Politics and Economics (Deemed to be University), Pune, will offer a Certificate Course on Computer Application in Economic Analysis from 10/02/2020. The classes will be held at the Institute only on weekdays after 6:30 pm.

Eligibility: Graduate in any discipline.

For information on application form, rules/regulations etc., please visit www.gipe.ac.in.

Filled application form should be send to admission@gipe.ac.in along with fee receipt of ₹ 25,000/- (General/OBC) / ₹ 15,000/- (SC/ST/DTNT/VJNT) on or before Friday, 31/01/2020.

Payment of the fee shall be made only through the payments gateway by Debit/Credit Card or Net Banking. [(www.gipe.ac.in → Students → Payment of Fees) (candidate should write their graduation reg. no./ roll no.)].

Suddhasil Siddhanta

Suddhasil Siddhanta

Faculty & Course Coordinator

Gokhale Institute of Politics and Economics, Pune, India





Gokhale Institute of Politics & Economics

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846, Shivajinagar, B.M.C.C. Road,

PUNE - 411 004 (INDIA)

Certificate Course in Computer Application in Economic Analysis (CAEA)

Notice-2

We will kick-start the Certificate Course on 10th February 2020 at 06:30 pm at the room No 102 of New Academic Block of The Gokhale Institute, Pune.

Instructions for the students:

1. Students are asked to carry their own laptop and ask office to provide STATA software.
2. PhD students must submit a **no objection certificate** duly signed by their supervisors and should remember that they have to acknowledge the skill enhancement from this course in their entire professional career.
3. Students should maintain the time schedule and be ready to cooperate with the resource person/s.

At: 6/10/2020

B Academic Section

Gokhale Institute of Politics and Economics
Certificate Course in Computer Application in Economic Analysis (CAEA)



Fax No. : (020) 25652579
Website : www.gipe.ac.in
E-mail : gipe@vsnl.com

Telegram : GOKHALINST (DG)
Telephone : (020) 25650287, 25654288/89, 25675008
25661367, 25661369/70

Gokhale Institute of Politics and Economics
Syllabus for Post Graduate Certificate Programme on Econometric Application and Data Science (EADS).:

This is an applied quantitative course using cutting-edge methods, including econometrics, statistical software applications (*STATA, R, EViews, etc*). What distinguishes these modules is the adoption of the modern learning-by-doing approach to teaching econometrics, which emphasizes the application of econometrics to real world problems. The focus is on understanding the theoretical aspects that are critical in applied work, the ability to correctly interpret empirical results and to unmask the various technical nuances for precise understanding.

Underpinning this program is a strong emphasis on quantitative skills applicable to the private and public sectors as well as a focus on faculty and student research.

Course Structure: The content of the course will be presented by means of practical training sessions. The sessions will demonstrate the concepts and methods of econometrics with practical examples of different dimensions. The course will cover wide data sets and solution of some of the problem set will be discussed in the sessions.

Course Objectives: This course is ideal for advanced graduate students, early-career academic researchers, working professionals from analytic sector and researchers in the public, private or non-profit sector. There will be a strong emphasis on the concepts and application of probability theory, random variables, distributions, sampling theory, statistical inference, correlation and regression. Statistical inference techniques such as estimation and significance testing are important in the fitting and interpretation of econometric models. Correlation and regression analysis are essential tools for measuring relationships between variables and for prediction. This course should be of value to those interested in in-depth data analysis employing modeling and suitable econometric techniques.

Outcome: By the end of the module you should be competent in applying the mathematical and statistical tools used in econometrics, and should be able to:

1. handle data
2. apply econometric methods
3. understand the conditions under which particular estimators are appropriate
4. apply appropriate estimators to the type of numerical data
5. judging theoretical methods for different types of numerical data
6. understand the basic theory of the ordinary least squares, generalized least squares, time series and panel data models
7. interpret empirical results in applied economics literature
8. write and present technical material lucidly

Texts: As stand-alone resources will be provided, there will be no need to rely on particular texts. However, there are several good texts now available which can be used as supplementary materials, including:

- **WOOLDRIDGE, J M, *Introductory Econometrics – A Modern Approach* (4th ed), South-Western, 2009**
- **RUUD, Paul A., *An Introduction to Classical Econometric Theory*, Oxford, 2000.**
- **GREENE, William H., *Econometric Analysis*, Prentice Hall, 2000.**
- **BALTAGI, B.H., *Econometric Analysis of Panel Data* (4th Edition), John Wiley & Sons, 2005**
- **ULLAH A, GILES D.E. (eds.), *Handbook of Applied Economic Statistics*, Marcel Dekker, New York, 1998**
- **MUKHERJEE, Chandan., *Econometrics and Data Analysis for Developing Countries: A Guide to Econometric Practice*, (with Howard White and Marc Wuyts), Routledge, UK, 1998**

The course consists of ten modules; starting with **Exploratory Data Analysis (EDA)**. This module is divided in five sections. The first section is on **text analysis utilities** which will involve data preparation by cleaning special characters and spaces from texts, removal of user-defined words, stemming for related words, bag of words to observe list and number of unique words allowing quantitative analysis, discriminant analysis, clustering and use of dictionaries. The next section is **model specification** comprising data classification, understanding the role of data in modeling, exploratory data analysis vs. formal statistical inference, focus on different dimensions of data –time, spatial etc. The final section of this module is **modeling average**; this involves working with real world dataset (usefulness and shortcomings of modeling mean, relative efficiency of mean and median, confidence interval and its interpretation, etc.)

The second module on **outlier detection, shape of the distribution and data transformation** consists of two sections. The first section of this module focuses on **least square principle**, consists of concept of resistance, mean-based vs. ordered-based statistics, etc. This section will be followed by a section on **data distribution** entailing outlier detection, validity of normality assumption, data transformation using cross-sectional data.

The third module is on **linear regression**. The first section is on **concepts**, comprises of basic principles and discussion on theoretical background. The second and final section of this module on **regression with graphics** entails checking the model assumption, exploratory band regression, checking of high leverage and influential points, transformation of data towards linearity, double-log transformation vs. semi-log transformation, etc.

The fourth module on **interpretation of multiple regression coefficients** consists of two sections. The first section consists of **hierarchical sequence** of simple regression, introduction of added variable

plot, etc. followed by the second section on **different macroeconomic data set**, working on money illusion in the demand function, partial vs. multiple regressions, decomposing the sum of squares, coefficient of determination, partial regression vs. partial coefficients, checking the assumptions of regression model, etc.

The fifth module is **model selection/misspecification in multiple regression**, in which the first section comprises of **omitted variable** bias, testing zero restrictions/non zero linear restrictions, etc. followed by the second section on **parameter stability**, which would use macroeconomic database, dummy variables, etc.

The sixth module is on **heteroscedasticity** with two sections. The first section is on **detecting heteroscedasticity**, involving use of test statistics, and transformation towards homoscedasticity. The second section is **graphical detection of heteroscedasticity**, this would use survey data to find appropriate transformation, working with group data, etc.

The seventh module is **regression on categorical variable**. This module involves handling different data sets where dependent variable is categorical, contingency tables, test of association, logit and probit modeling, comparing probit with linear probability model. Emphasis is given on microeconometrics, using sample from big data appropriate for micro-econometric exercises.

The eighth module on **time series** has two sections. The first section is on stationarity and non-stationarity of data, different types of ordering of data, structural autocorrelation vs. temporal autocorrelation, autoregressive process, multivariate time series, etc. The is followed by second section on role of moving average in modelling exercise followed with auto-regressive moving average process, cointegration, ARCH-GARCH modelling, inferring causality and reverse causality, etc.

The ninth module is **panel data analysis**. The first section comprises of **understanding panel data**, complicity of panel data analysis, short vs. long panel, balanced vs. unbalanced panel, clustering of residual, types of regressor, fixed vs. random effects models, role of instrumental variable to control endogeneity.

The tenth module is preparation of dissertation on topic of interest. The candidate will be asked to take one optional module (Module 10) and to prepare a rigorous econometric exercise and preparation of dissertation on different topics from demography, development issues, etc. (Module 11).

Description of the course structure: (6 months programme)

Module No.	Content
Module 1:	<p>Exploratory Data Analysis (EDA): Section 1: Text analysis utilities: Data preparation by cleaning special characters and spaces from texts, removal of user-defined words, stemming for related words, discriminant analysis, clustering and use of dictionaries. Section 2: Model specification: Data classification, role of data, exploratory data analysis vs. formal statistical inference, different dimensions of data. Section 3: Modeling average: working with real world dataset (usefulness and shortcomings of modeling mean, relative efficiency of mean and median, confidence interval and its interpretation, etc.)</p>
Module 2:	<p>Outlier detection, shape of the distribution and data transformation: Section 1: Least square principle and concept of resistance, mean-based vs. ordered-based statistics, etc. Section 2: Data Distribution :Outlier detection, validity of normality assumption, data transformation using cross-sectional data.</p>
Module 3:	<p>Linear regression: Section 1: Concepts: Basic principles and discussion on theoretical background Section 2: Regression with graphics – checking the model assumption, exploratory band regression, checking of high leverage & influential points, transformation of data towards linearity, double-log transformation vs. semi-log transformation, etc.</p>
Module 4:	<p>Interpretation of multiple regression coefficients: (Proposed resource persons (tentative): Mr. Nayak) Section 1: Hierarchical sequence of simple regression, added variable plot, etc. Section 2: Working with different macroeconomic data set, money illusion in the demand function, partial vs. multiple regressions, decomposing the sum of squares, coefficient of determination, partial regression vs. partial coefficients, checking the assumptions of regression model, etc.</p>
Module 5:	<p>Model selection/misspecification in multiple regression: Section 1: Omitted variable bias, testing zero restrictions/non zero linear restrictions, etc. Section 2: Parameter stability using macroeconomic database, use of dummy variables, etc.</p>
Module 6:	<p>Heteroscedasticity: Section 1: Detecting heteroscedasticity, different test statistics, and transformation towards homoscedasticity. Section 2: Detecting heteroscedasticity by graphical method using survey data, finding appropriate transformation, working with group data, etc.</p>
Module 7:	<p>Regression on categorical variable: Section 1: Handling different data sets where dependent variable is categorical Section 2: Preparation, distributional and contingency tables Section 3: test of association, logit and probit modeling, comparing probit with linear probability model.</p>

	Emphasis is given on microeconometrics, using sample from big data appropriate for micro-econometric exercises.
Module 8:	<p>Time series analysis:</p> <p>Section 1: Stationarity and Non-Stationarity of data, different types of ordering of data, structural autocorrelation vs. temporal autocorrelation, autoregressive process, multivariate time series, etc.</p> <p>Section 2: Role of moving average in modelling exercise, auto-regressive moving average process, cointegration, ARCH-GARCH modelling, inferring causality and reverse causality, etc.</p>
Module 9:	<p>Panel data analysis: (Proposed resource persons (tentative): Dr. Siddhanta)</p> <p>Section 1: Panel data, complicity of panel data analysis, short vs. long panel, balanced vs. unbalanced panel, clustering of residual, types of regressor, fixed vs. random effects models, role of instrument variable to control endogeneity.</p> <p>Section 2: Organization of real world dataset for panel analysis, panel identifier, time identifier, regression analysis, interpretation of result, report writing.</p>
Module 10	<p>Demographic Analysis and Population Projections (Optional 1)</p> <p>Section 1: Population age-sex structure: a tool to understand demographic change and evaluate data quality, Concepts and measurements related to demographic change: fertility, mortality, and migration</p> <p>Section 2: Direct and indirect estimation techniques for fertility and mortality data from registration systems, household surveys, and censuses</p>
	<p>Spatial Data Analysis (Optional 2)</p> <p>Section 1: Spatial Autoregressive model</p> <p>Section 2: Spatial Moving Average model</p> <p>Section 3: Spatial Autoregressive Moving Average model</p> <p>Section 4: Spatio-temporal model</p> <p>Section 5: Spatio-temporal panel</p>
	<p>Cluster Analysis for Market Research (Optional 3)</p> <p>Section 1: Market segmentation: identification homogenous groups of objects (or cases, observations) called clusters - hierarchical methods and partitioning methods</p> <p>Section 2: Conducting a Cluster Analysis: Selection of Clustering Variables, Types of clustering variables, factor-cluster segmentation</p> <p>Section 3: Selection of Clustering Procedure: Hierarchical Clustering Methods</p>
Module 11:	Project: Demography/Development Economics
<p>Finally, students will be asked for assessment tests which include submission of dissertation and formal examination. Grades for the course will be computed based on the following allocation:</p> <ol style="list-style-type: none"> 1. Final exam (20%) [short objective types + practical exercises + result interpretation and report writing on the basis of analysis] 2. Dissertation (80%) 	





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846, Shivajinagar, B.M.C.C. Road

PUNE - 411 004 (INDIA)

August 19, 2021

NOTICE

Post Graduate Certificate Programme on Econometric Application and Data Science (EADS).

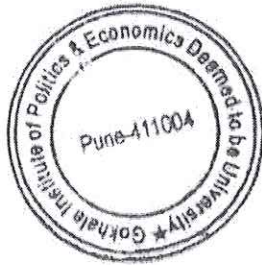
Gokhale Institute of Politics and Economics (Deemed to be University), Pune, is offering a Post Graduate Certificate Course on Econometric Application and Data Science from 15/09/2021. The classes will be held online on weekdays after 6:00 pm.

Eligibility: Graduate in any discipline.

For information on application form, rules/regulations etc., please visit www.gipe.ac.in.

Filled application form should be send to admission@gipe.ac.in along with fee receipt of ₹ 35,000/- (General/OBC) / ₹ 25,000/- (SC/ST/DTNT/VJNT) (for the PhD students of Gokhalke Institute of Politics and Economics - ₹ 10,000/- (General/OBC) / ₹ 05,000/- (SC/ST/DTNT/VJNT)) on or before Friday, 10/09/2021.

Payment of the fee shall be made only through the payments gateway by Debit/Credit Card or Net Banking. [(www.gipe.ac.in → Students → Payment of Fees) candidate should write their graduation reg. no./ roll no.]].



Suddhasil Siddhanta

Suddhasil Siddhanta
Faculty & Course Coordinator, EADS
Gokhale Institute of Politics and Economics, Pune,
India


French () Course Details

Course Information

Program Name	M.Sc. International Business Economics & Finance
Semester	1 & 2
Course Code	
Course Name	French
No of Credits	
Course Type	

Program Outcomes

PO#	Description
PO1	Disciplinary knowledge
PO2	Communication Skills
PO3	Critical thinking, Problem solving and Analytical reasoning
PO4	Acquiring research-related skills, scientific reasoning and reflective thinking
PO5	Self-directed lifelong learning



Program Specific Outcomes

PSO#	Description
PSO1	The program provides a deep understanding of the broad principles and theories which

	tend to govern the flow of trade in goods, services and capital— at the global level.
PSO2	It involves looking at and understanding international trade, global economics, and, most importantly, how to navigate different cultures.
PSO3	In addition to the learning of advanced economic theory and its applications, the curricular structure of the program is designed to provide critical learning in the domain of international trade policy, practices and regulations, international corporate finance, international economic institutions, etc.
PSO4	At the end of this program, students will garner immense skills and expertise in the fields of business and finance altogether to grab career opportunities on the way.

Course Outcomes

CO#	Description
CO1	To acquaint students with greeting others, introducing themselves, and sharing basic personal information in French.
CO2	To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
CO3	To enable students to describe locations, ask for directions, and discuss transportation and geography.
CO4	To equip students with the skills to communicate in business settings, managing trips and financial transactions

Course Content

Serial Number	Topic	Subtopic	Hours
1	Salutations	Greetings, introductions, numbers 1-10, Residence, family,	30

		measurements, cardinal/ordinal numbers, Personal info, numbers 11-50, time, days, months	
2	Conversation Skills	Interests, preferences, invitations, hobbies, leisure; Weather, daily routine, seasons/holidays, letter/email writing; Clothing, shopping, payments, human body, ailments	30
3	Geographical Description	Country location, borders, ports, industrial towns; Directions, public places, transport, numbers 51-1000.	30
4	Business	Restaurant visits, agreement/disagreement, price/quantity; Past events, personal/business letters, email formats; Future actions, business trip planning (hotel, transport, documents); Post office, bank, insurance transactions, payment terms (fob, c.i.f, f.a.s)	30

Course Outcome Mapping

Serial Number	Topic	Course Outcome Linkage	Program Outcome Linkage	Program Specific Outcome Linkage
1	Salutations	CO1	PO2, PO5	PSO1, PSO2
2	Conversation Skills	CO2	PO2, PO3	PSO1, PSO2
3	Geographical Description	CO3	PO2, PO5	PSO1, PSO2
4	Business	CO4	PO2, PO6	PSO1, PSO2



Foreign language: French

Learning Outcomes

- (i) To acquaint students with greeting others, introducing themselves, and sharing basic personal information in French.
- (ii) To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
- (iii) To enable students to describe locations, ask for directions, and discuss transportation and geography.
- (iv) To equip students with the skills to communicate in business settings, managing trips and financial transactions

Unit 1: Salutations

- 1.1 To greet the people and say Good afternoon, Good Evening, Goodbye, ask name and say your name, seek clarification and help, numbers from 1 to 10
- 1.2 To say where you live. Describe your house and members of your family. Weights and Measures, length & breadth, use of decimal system, area and volume. Cardinal numbers & Ordinal Numbers.
- 1.3 Ask and give personal information, Nationality, profession and language, Numbers from 11 to 50. To ask time by clock and by span, days of the week, months of the year.

Unit 2: Conversation Skills:

- 2.1 To ask and express interests, Preferences; likes and dislikes; to invite, to accept the invitation or to politely decline the invitation; hobbies and how to spend your leisure.
- 2.2 To talk about the weather; to talk about the daily personal routine and related activities. Seasons & holidays in France. Introduction to letter writing and email writing.
- 2.3 To talk about clothing, size colour, material. Purchase at a super market, modes of payment. To name and explain human body to express common bodily ailments (fever, headache etc)

Unit 3: Geographical Description

- 3.1 Country, location on the world map, borders and neighboring countries, ports and industrial towns.
- 3.2 Information and clarification of places. Asking for directions to the public places. Modes of Transport, Numbers 51 to 1000.

Unit 4: Business

- 4.1 Visit to a restaurant, to express agreement/disagreement; to ask for price/quantity
- 4.2 To ask about personal past events, to narrate personal experience, to comprehend difference between letters like Personal/Business Letters, telegram & e-mail; formats of Letter head and e mail.
- 4.3 To talk about/express future actions, to plan a business trip with related requirements: hotel, tickets, car, Rent a car, places to visit, traffic signs etc. Documents required like Passport, International Driving license, Insurance cover etc.



4.4 Vocabulary relating to the Transactions at the Post office, Bank, Insurance Company – personal, health, accident, marine... equivalent terms of transaction – fob, c.i.f, f.a.s, payment through Letter of credit. Etc.

Grammar: Future tense, imperfect tense, degrees of comparison, imperative mood. Script, Letters of alphabet, accents, sounds of groups of letters, punctuation marks, articles, nouns, sing./Pl, genders; mas. /fem. Structure of sentences & types like affirmative, negative interrogative & negative interrogative, Verbs: classes of verbs and conjugation patterns, Pronominal verbs; Present tense, The idea of auxiliary verb; prepositions; pronouns- subject, interrogative, relative, possessive, emphatic; adjectives, adverbs

Spanish () Course Details

Course Information

Program Name	M.Sc. International Business Economics & Finance
Semester	1 & 2
Course Code	
Course Name	Spanish
No of Credits	
Course Type	

Program Outcomes

PO#	Description
PO1	Disciplinary knowledge
PO2	Communication Skills
PO3	Critical thinking, Problem solving and Analytical reasoning
PO4	Acquiring research-related skills, scientific reasoning and reflective thinking
PO5	Self-directed lifelong learning



Program Specific Outcomes

PSO#	Description
PSO1	The program provides a deep understanding of the broad principles and theories which

	tend to govern the flow of trade in goods, services and capital— at the global level.
PSO2	It involves looking at and understanding international trade, global economics, and, most importantly, how to navigate different cultures.
PSO3	In addition to the learning of advanced economic theory and its applications, the curricular structure of the program is designed to provide critical learning in the domain of international trade policy, practices and regulations, international corporate finance, international economic institutions, etc.
PSO4	At the end of this program, students will garner immense skills and expertise in the fields of business and finance altogether to grab career opportunities on the way.

Course Outcomes

CO#	Description
CO1	To acquaint students with greeting others, introducing themselves, and sharing basic personal information in Spanish.
CO2	To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
CO3	To enable students to describe locations, ask for directions, and discuss transportation and geography.
CO4	To equip students with the skills to communicate in business settings, managing trips and financial transactions

Course Content

Serial Number	Topic	Subtopic	Hours
1	Salutations	Greetings, introductions, numbers 1-10, Residence, family,	30

		measurements, cardinal/ordinal numbers, Personal info, numbers 11-50, time, days, months	
2	Conversation Skills	Interests, preferences, invitations, hobbies, leisure; Weather, daily routine, seasons/holidays, letter/email writing; Clothing, shopping, payments, human body, ailments	30
3	Geographical Description	Country location, borders, ports, industrial towns; Directions, public places, transport, numbers 51-1000.	30
4	Business	Restaurant visits, agreement/disagreement, price/quantity; Past events, personal/business letters, email formats; Future actions, business trip planning (hotel, transport, documents); Post office, bank, insurance transactions, payment terms (fob, c.i.f, f.a.s)	30

Course Outcome Mapping

Serial Number	Topic	Course Outcome Linkage	Program Outcome Linkage	Program Specific Outcome Linkage
1	Salutations	CO1	PO2, PO5	PSO1, PSO2
2	Conversation Skills	CO2	PO2, PO3	PSO1, PSO2
3	Geographical Description	CO3	PO2, PO5	PSO1, PSO2
4	Business	CO4	PO2, PO6	PSO1, PSO2

Foreign language: Spanish

Learning Outcomes

- (i) To acquaint students with greeting others, introducing themselves, and sharing basic personal information in Spanish.
- (ii) To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
- (iii) To enable students to describe locations, ask for directions, and discuss transportation and geography.
- (iv) To equip students with the skills to communicate in business settings, managing trips and financial transactions

Unit 1: Salutations

- 1.1 To greet the people and say Good afternoon, Good Evening, Goodbye, ask name and say your name, seek clarification and help, numbers from 1 to 10
- 1.2 To say where you live. Describe your house and members of your family. Weights and Measures, length & breadth, use of decimal system, area and volume. Cardinal numbers & Ordinal Numbers.
- 1.3 Ask and give personal information, Nationality, profession and language, Numbers from 11 to 50. To ask time by clock and by span, days of the week, months of the year.

Unit 2: Conversation Skills:

- 2.1 To ask and express interests, Preferences; likes and dislikes; to invite, to accept the invitation or to politely decline the invitation; hobbies and how to spend your leisure.
- 2.2 To talk about the weather; to talk about the daily personal routine and related activities. Seasons & holidays in Spain. Introduction to letter writing and email writing.
- 2.3 To talk about clothing, size colour, material. Purchase at a super market, modes of payment. To name and explain human body to express common bodily ailments (fever, headache etc)

Unit 3: Geographical Description

- 3.1 Country, location on the world map, borders and neighboring countries, ports and industrial towns.
- 3.2 Information and clarification of places. Asking for directions to the public places. Modes of Transport, Numbers 51 to 1000.

Unit 4: Business

- 4.1 Visit to a restaurant, to express agreement/disagreement; to ask for price/quantity
- 4.2 To ask about personal past events, to narrate personal experience, to comprehend difference between letters like Personal/Business Letters, telegram & e-mail; formats of Letter head and e mail.
- 4.3 To talk about/express future actions, to plan a business trip with related requirements: hotel, tickets, car, Rent a car, places to visit, traffic signs etc. Documents required like Passport, International Driving license, Insurance cover etc.



4.4 Vocabulary relating to the Transactions at the Post office, Bank, Insurance Company – personal, health, accident, marine... equivalent terms of transaction – fob, c.i.f, f.a.s, payment through Letter of credit. Etc.

Grammar: Future tense, imperfect tense, degrees of comparison, imperative mood. Script, Letters of alphabet, accents, sounds of groups of letters, punctuation marks, articles, nouns, sing./Pl, genders; mas. /fem. Structure of sentences & types like affirmative, negative interrogative & negative interrogative, Verbs: classes of verbs and conjugation patterns, Pronominal verbs; Present tense, The idea of auxiliary verb; prepositions; pronouns- subject, interrogative, relative, possessive, emphatic; adjectives, adverbs

German () Course Details

Course Information

Program Name	M.Sc. International Business Economics & Finance
Semester	1 & 2
Course Code	
Course Name	German
No of Credits	
Course Type	

Program Outcomes

PO#	Description
PO1	Disciplinary knowledge
PO2	Communication Skills
PO3	Critical thinking, Problem solving and Analytical reasoning
PO4	Acquiring research-related skills, scientific reasoning and reflective thinking
PO5	Self-directed lifelong learning

Program Specific Outcomes

PSO#	Description
PSO1	The program provides a deep understanding of the broad principles and theories which



	tend to govern the flow of trade in goods, services and capital— at the global level.
PSO2	It involves looking at and understanding international trade, global economics, and, most importantly, how to navigate different cultures.
PSO3	In addition to the learning of advanced economic theory and its applications, the curricular structure of the program is designed to provide critical learning in the domain of international trade policy, practices and regulations, international corporate finance, international economic institutions, etc.
PSO4	At the end of this program, students will garner immense skills and expertise in the fields of business and finance altogether to grab career opportunities on the way.

Course Outcomes

CO#	Description
CO1	To acquaint students with greeting others, introducing themselves, and sharing basic personal information in German.
CO2	To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
CO3	To enable students to describe locations, ask for directions, and discuss transportation and geography.
CO4	To equip students with the skills to communicate in business settings, managing trips and financial transactions

Course Content

Serial Number	Topic	Subtopic	Hours
1	Salutations	Greetings, introductions, numbers 1-10, Residence, family,	30

		measurements, cardinal/ordinal numbers, Personal info, numbers 11-50, time, days, months	
2	Conversation Skills	Interests, preferences, invitations, hobbies, leisure; Weather, daily routine, seasons/holidays, letter/email writing; Clothing, shopping, payments, human body, ailments	30
3	Geographical Description	Country location, borders, ports, industrial towns; Directions, public places, transport, numbers 51-1000.	30
4	Business	Restaurant visits, agreement/disagreement, price/quantity; Past events, personal/business letters, email formats; Future actions, business trip planning (hotel, transport, documents); Post office, bank, insurance transactions, payment terms (fob, c.i.f, f.a.s)	30

Course Outcome Mapping

Serial Number	Topic	Course Outcome Linkage	Program Outcome Linkage	Program Specific Outcome Linkage
1	Salutations	CO1	PO2, PO5	PSO1, PSO2
2	Conversation Skills	CO2	PO2, PO3	PSO1, PSO2
3	Geographical Description	CO3	PO2, PO5	PSO1, PSO2
4	Business	CO4	PO2, PO6	PSO1, PSO2



Foreign language: German

Learning Outcomes

- (i) To acquaint students with greeting others, introducing themselves, and sharing basic personal information in German.
- (ii) To familiarize students with engaging in conversations about preferences, routines, and writing basic letters/emails.
- (iii) To enable students to describe locations, ask for directions, and discuss transportation and geography.
- (iv) To equip students with the skills to communicate in business settings, managing trips and financial transactions

Unit 1: Salutations

- 1.1 To greet the people and say Good afternoon, Good Evening, Goodbye, ask name and say your name, seek clarification and help, numbers from 1 to 10
- 1.2 To say where you live. Describe your house and members of your family. Weights and Measures, length & breadth, use of decimal system, area and volume. Cardinal numbers & Ordinal Numbers.
- 1.3 Ask and give personal information, Nationality, profession and language, Numbers from 11 to 50. To ask time by clock and by span, days of the week, months of the year.

Unit 2: Conversation Skills:

- 2.1 To ask and express interests, Preferences; likes and dislikes; to invite, to accept the invitation or to politely decline the invitation; hobbies and how to spend your leisure.
- 2.2 To talk about the weather; to talk about the daily personal routine and related activities. Seasons & holidays in Germany. Introduction to letter writing and email writing.
- 2.3 To talk about clothing, size colour, material. Purchase at a super market, modes of payment. To name and explain human body to express common bodily ailments (fever, headache etc)

Unit 3: Geographical Description

- 3.1 Country, location on the world map, borders and neighboring countries, ports and industrial towns.
- 3.2 Information and clarification of places. Asking for directions to the public places. Modes of Transport, Numbers 51 to 1000.

Unit 4: Business

- 4.1 Visit to a restaurant, to express agreement/disagreement; to ask for price/quantity
- 4.2 To ask about personal past events, to narrate personal experience, to comprehend difference between letters like Personal/Business Letters, telegram & e-mail; formats of Letter head and e mail.
- 4.3 To talk about/express future actions, to plan a business trip with related requirements: hotel, tickets, car, Rent a car, places to visit, traffic signs etc. Documents required like Passport, International Driving license, Insurance cover etc.



4.4 Vocabulary relating to the Transactions at the Post office, Bank, Insurance Company – personal, health, accident, marine... equivalent terms of transaction – fob, c.i.f, f.a.s, payment through Letter of credit. Etc.

Grammar: Future tense, imperfect tense, degrees of comparison, imperative mood. Script, Letters of alphabet, accents, sounds of groups of letters, punctuation marks, articles, nouns, sing./Pl, genders; mas. /fem. Structure of sentences & types like affirmative, negative interrogative & negative interrogative, Verbs: classes of verbs and conjugation patterns, Pronominal verbs; Present tense, The idea of auxiliary verb; prepositions; pronouns- subject, interrogative, relative, possessive, emphatic; adjectives, adverbs



Gokhale Institute of Politics and Economics

(Deemed to be University)

Pune

**Post-graduate Diploma
in Financial Economics
(PGDFE)**



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About the Course

This course is aimed at all students who would like to gain knowledge in the domain of financial economics with exposure to sophisticated econometric tools and software along with the extensive underpinning of financial theory.

This course will provide a bridge between the aspirants who would like to work in the most competitive and rewarding market but lack the required understanding.

The PG diploma aims to impart knowledge related to the financial market using sophisticated tools and technics. The pedagogy of the course would be a mix of robust theory-based classroom teaching amalgamated with the analysis of high-frequency financial data. This course will equip the student to provide real-time solutions to the issue related to the financial markets.

Intake

There are in total 40 seats. A few seats are reserved for the B Sc Students of the Gokhale Institute. This course is also open to NRI students. The course will follow all other reservation rules as prescribed by the Government of India.

Eligibility

Students who have completed an undergraduate degree in any discipline/stream have statistics as one of the courses.

Fees

Rs 1,50,000 per year (Rupees One Lakh and Fifty Thousand per year)

Enrollment

Direct entry to the students who have completed B.Sc. Economics at GIPE.

1. **Internal Students:** T.Y. B.Sc. Economics students at GIPE would have to apply for this course on or before 31st March 2022. 25% fees (on a non-refundable basis) need to be paid by 5th April 2022 to confirm their admission to this course. Post the 5th of April, if a student chooses to withdraw from the course, they may do so, but refunds will not be possible.

2. **External Students:** Candidates from other universities willing to apply will be selected through an interview process. The important date for the admission process is as follows:

Event	Date
Last date to submit a complete filled application	5th July 2022
Interviews of eligible candidates shortlisted	11-12th July 2022
Announcement of 1st list of selected candidates	15th July 2022

Mode of Teaching

This course is a full-time course and will be conducted on the institute campus. This course would be offered in offline mode. In-person attendance for at least 75% of lectures will be mandatory.

Pattern

The course will follow a trimester pattern and will be structured as follows:

Trimester	Component	Duration
First	Classroom-based learning	Classes commence on the 15th of August and continue till November
Second	Classroom-based learning	From the 15th of December until February
Third	Academic Research under a professor or /Corporate Internship	Work beginning the third week of March until May

Evaluation and Credit system

1. Each student shall be required to complete the Diploma within a maximum period of two years from the date of admission.
2. **Trimesters:** Each trimester will consist of 8-10 weeks of academic work equivalent to 40 working days. The first trimester may be scheduled from August to November, the Second trimester from December to February and the third trimester from March to May.

3. **Course:** Usually referred to as 'Paper', a course is a component of the Post-Graduate Diploma. The objective of the course and learning outcomes are defined in the detailed syllabus of the programme. A course may be designed to comprise lectures/ tutorials/ fieldwork/ outreach activities/ vocational training/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination thereof.
4. Each course will be of 100 marks. Continuous internal assessment during the semester (based on periodical tests/ assignments) will account for 60 marks, and the semester-end examination for 40 marks.
5. Continuous internal assessment shall comprise three periodical tests of 30 marks each (of 1-hour duration each) for every course in each semester. Of the three tests, the two best performances will be counted to arrive at total periodical test marks for each course.

Students must appear/write at least two out of three periodical tests/ assignments, failing which the students will not be eligible to appear/ write semester end examinations for the course(s). In this case, a student has to stay back in the same semester and complete the requirements mentioned above. Unless a student completes the basic requirement of appearing at least two periodical tests, they will not be promoted to the next trimester. The statement of marks will carry the remark "Not Eligible" against the said course/paper. In this case, the student has to wait for one year and complete the course with the new batch of students in the following year. No fees would be refunded in case of leaving the course in between. *If a student fails more than three courses in total, they will no longer be eligible to write exams the following year; they will no longer be a part of the program.*

Of the three periodical tests, the third shall be a test, while the first and second examinations shall be either a test or an assignment.

6. **Passing a course:** A candidate must obtain a minimum of 50% marks in the aggregate; taking together the marks obtained in the periodical tests and the semester-end examinations, in a course, in order to pass in that course.
7. Fractional marks shall be rounded off in the case of the aggregate of periodical tests and semester-end examinations.
8. For the final trimester, grades will be based on report submission and a viva-voce. The submission can be either an academic research project or a report on the internship experience acquired during this trimester.

9. Attendance in at least 75% of the lectures delivered in each course and appearance for at least two out of three periodical tests/assignments is compulsory, failing which the student shall not be allowed to appear for the semester-end examination for the course(s). In this case, the consolidated statement of marks will carry the remark “Not Eligible” against the said course.
10. A student shall be eligible for a maximum of one attempt for each course to clear the semester-end examination, i.e. the main examination. There will be no backlog exam for the course in the year of enrolment. The student has to wait for one year and complete the course with a new batch. The syllabus for the examination will be as per the prevailing syllabus at the time of appearing for the examination. Under no circumstances shall the student be eligible to answer the semester-end examination in a course more than one time in an academic year.

To reiterate:

- a. The end-semester examination can be written only once in an academic year
- b. A subject can be attempted a maximum of twice (once in the enrollment year, once in the next)
- c. Failure in more than three courses in the enrolment year results in suspension

Grades and Credit System

1. **Credit:**

A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial). For each Course, there will be 4 hours of teaching every week and 40 contact hours during a semester of 8-10 weeks. Contact hours shall include classroom instruction, remedial teaching and time spent on all forms of continuous assessment including tutorials.

2. **Credit Based Semester System (CBSS):**

Under the CBSS, the requirement for awarding a degree is prescribed in terms of the number of credits to be completed by the students. For this one-year PG Diploma Programme, the student has to complete 48 credits. The split will be 16 credits per trimester, with the last trimester worth 16 credits for internship/ research project. No examination will be conducted in the last trimester; the report prepared by the student, in addition to a viva voce will be the only submission required.

3. Letter Grade:

It is an index of the performance of students in a said course. Grades are denoted by the letters O, A+, A, B+, B, C and F.

4. Letter Grade and Grade Points:

It is a numerical weight allotted to each letter grade on a 10-point scale. For this program, each course will be evaluated for 100 marks. Continuous internal assessment during the semester based on periodical tests/ assignments will account for 60 marks and the semester-end examination 40 marks. The Institute follows an absolute grading system for conversion of marks to grades, where grades are assigned as

For course with 4 credits

Marks	Grade	Grade Point
90 and above	O (Outstanding)	10
80 to 89.9	A+ (Excellent)	9
70 to 79.9	A (Very Good)	8
60 to 69.9	B+ (Good)	7
55 to 59.9	B (Above Average)	6
50 to 54.9	C (Average)	5
Below 50	F (Fail)	0
Absent	Ab (Absent)	0
Not Eligible	NE (Not Eligible)	0

5. Passing a course:

A student shall pass a course only if he/she has appeared for at least two periodical tests out of three periodical tests and appeared in the semester-end examination and secured a weighted grade higher than "F" in the course.

6. Credit Point:

It is the product of grade point and the number of credits for a course.

7. Semester Grade Point Average (SGPA):

It is a measure of performance of work done in a semester. It is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

8. Cumulative Grade Point Average (CGPA):

It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

9. Transcript or Grade Certificate:

Based on the grades earned, a grade card shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester. At the completion of the programme, a consolidated transcript indicating the performance in all semesters along with CGPA will be issued to the student.

10. Conversion of CGPA to Percentages:

Conversion of CGPA to percentages can be done by multiplying the CGPA by ten.

11. Award of degree:

A student in order to be eligible for the award of the PG Diploma in Financial Economics of GIPE must meet the following requirements within a period of two years from the date of admission.

- (i) **Clear all the 8 courses and complete the internship/research project**
- (ii) **Must have a CGPA of 5 or more at the end of the program.**

The results of the successful candidates will be classified as indicated below on the basis of CGPA

S. No.	CGPA	Class/ Division
1	CGPA of 8 and above	High First Class
3	CGPA of 7.0 and above, less than 8.0	Middle First Class
4	CGPA of 6.0 and above, less than 7.0	Lower First Class
5	CGPA of 5.5 and above, less than 6.0	Second Class
6	CGPA of 5.0 to 5.49	Average

Courses

Sr. No.	Course Code	Name of the Course
Trimester 1		
1	1.1	Principles of Finance Using MS Excel
2	1.2	Econometrics for Finance
3	1.3	Financial Economics - 1
4	1.4	Financial Modeling
Trimester 2		
5	2.1	Financial Econometrics
6	2.2	Financial Economics - 2
7	2.3	International Finance
8	2.4	Developmental Finance and Programme Evaluation

Trimester 1

1.1 Principles of Finance Using MS Excel

Learning Outcomes

1. To introduce and reinforce basic concepts and principles in finance using MS-Excel
2. To use these principles to solve real-world financial case studies
3. To understand bond pricing using these principles.

Module 1: Basic financial concepts using MS Excel

- Simple and compound interest rates, interest rates using continuous compounding
- The mathematics behind annuities, perpetuities
- Nominal and real rates of interest

- Loan amortization schedules
- Risk, return and the statistical theory underpinning risk and return

Module 2: Real-World Financial Case Studies

- Investment evaluation using NPV, IRR, XNPV, MIRR
- PV, FV, PMT, PPMT, CUMPRINC, CUMIPMT and NPER functions in MS Excel
- Solver for Capital Budgeting
- Monte Carlo Simulations using MS Excel
- Pricing Stock Options Using MS Excel

Module 3: Bond Pricing Using MS Excel

- Pricing a zero-coupon bond
- Bond pricing, case studies
- Convexity and bond duration using MS Excel
- Calculating default risk

Suggested Readings:

1. *Wayne L. Winston, Data Analysis and Decision Making, 1st Edition, Microsoft Press*

1.2 Econometrics for Finance

Learning Outcomes

1. To build and enhance grasp of basic concepts and techniques for statistical and econometric analysis
2. To help students understand the appropriate application of econometric techniques to analyze financial data and interpret the results
3. To enable students to use the results of the analysis in financial decision making

Module 1: Review of Basic Statistical and Mathematical Concepts

- Distributions: The Poisson Distribution, The Normal Distribution, The Geometric Distribution, The Negative Binomial Distribution, The Gamma Distribution, the Central Limit Theorem,
- Trinity of classical tests (Wald test, Lagrange multiplier, Likelihood ratio)
- Parametric and Nonparametric tests.

Module 2: The basic linear regression model

- Estimating the regression parameters by Ordinary Least Squares (OLS). Issues related to Dummy Variable
- Appropriateness and relevance of the choice of functional form
- Violation of OLS assumptions and Diagnosis test and remedies for the Heteroscedasticity, Autocorrelation, multicollinearity, normality

Module 3: Discrete and Limited Dependent variable

- Linear Probability Model, Problems relating to LPM, Logit and Probit Model
- Multinomial Choice Models: Ordered Response Model; Unordered Response Model
- Censored and Truncated Regression Model

Note: This course will be taught with the help of Python/ R and it is expected that students acquire some knowledge of Python or R before the course begins.

Suggested Readings:

Books:

-
1. Judge, G.G. et al., *Introduction to the theory and Practice of econometrics*, 2 nd Edition John Wiley and Sons.
 2. Greene, William H., *Econometric Analysis*, Prentice Hall. • Johnston and Dinardo, *Econometric Methods*, 4 th Edition McGraw-Hill International Edition.

3. Wooldridge J., *Introductory Econometrics: A Modern Approach*, South-Western College Pub.
4. Studenmund, A.H., *Using Econometrics: A Practical Guide*, Addison Wesley Publishing Company, Boston,
5. Gujarati, Damodar, *Basic Econometrics*, 4 th Edition, Tata McGraw Hill Publishing Company, New Delhi

Recommended Python course (to be completed before the course) -

- <https://www.datacamp.com/courses/intro-to-python-for-data-science>

References for Python (coding) & Financial Econometrics -

6. *Forecasting: Principles and Practice (2nd ed)* - Rob J Hyndman and George Athanasopoulos
<https://otexts.com/fpp2/>
7. *Practical Time Series Analysis* - Dr. Avishek Pal, Dr. PKS Prakash
<https://www.oreilly.com/library/view/practical-time-series/9781788290227/>
8. *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow* - Aurélien Géron
https://www.knowledgeisle.com/wp-content/uploads/2019/12/2-Aur%C3%A9lien-G%C3%A9ron-Hands-On-Machine-Learning-with-Scikit-Learn-Keras-and-Tensorflow_-Concepts-Tools-and-Techniques-to-Build-Intelligent-Systems-O%E2%80%99Reilly-Media-2019.pdf
9. *Hands-on Time Series Analysis with Python* - Vishwas B V, Patel Ashish

1.3 Financial Economics - 1

Learning Outcomes

1. To acquaint students with the building blocks of derivatives (Module I)
2. To introduce concepts of futures contracts and their applications, including swaps (Module II)
3. To familiarize the students with thinking analytically about options (Module III)

Module I: The Building Blocks of Derivatives

- An introduction to the concept of futures and forwards contracts
- An introduction to the mechanics of options
- How do futures contracts work on exchanges? An introduction to margins
- Hedging and the uses of hedging
- Interest rates, bonds and bond pricing

Module II: Futures Contracts, Their Applications and Swaps

- Forwards and Futures in Detail
- Different types of Futures and Forward Contracts
- Carry Trades | Contango | Backwardation
- Plain Vanilla Swaps and their Pricing
- An introduction to CDS' and their role in the financial crisis of 2008

Module III: An Analytical Introduction to Options

- Options and Their Pricing
- European and American Options
- Put-Call Parity Theorem
- Options Trading Strategies

Suggested Readings:

Books:

-
1. *John C Hull: OFOD (8th Edition)*
 2. *Fabozzi, Frank, Modigliani, Franco, Jones, Frank (Feb 2009), Foundations of Financial Markets*
 3. *Howells, Peter, Bain, Keith (2007), Financial Markets and Institutions, 5th Edition.*



1.4 Financial Modeling

Learning Outcomes

1. To acquaint students with the basic building blocks of financial modeling using MS Excel (Module I)
2. To introduce to the students core financial models (Module II)
3. To familiarize students with case studies in portfolio-management using financial modeling

Module 1: Introduction to Valuation

Valuation of Equity Shares A Philosophical Basis for Valuation – The Role of Valuation – Comparable Company Analysis, Precedent Transactions Analysis, Discounted Cash Flow (DCF) analysis Dividend Discount Models – Free Cash Flow to Equity Discount Models – Free Cash Flow to the Firm

Module II: Financial Models

IRR and Multiple IRR, Calculating Cost of Capital, Gordon Model, CAPM, Calculating Cost of Debt, Financial Statement Modeling, Sensitivity procedure

Module III: Options valuation/ Bonds

Introduction to portfolio models, Calculating efficient portfolios, Computing Variance Covariance Matrix, Estimating Betas and Security Market Line, The single-index model

Suggested Readings:

Books:

1. *Simon Benninga, Financial Modeling with Excel, 3rd Ed., MIT Press.*
2. *Bill Dalton, Financial Products-An Introduction using Mathematics and Excel, Cambridge.*
3. *Danielle Stein Fairhurst, Using Excel for Business Analysis: A Guide to Financial Modeling Fundamentals, Wiley .*
4. *Day Alastair, Mastering Financial Modeling in Microsoft Excel 3rd Edn: A Practitioner's Guide to Applied Corporate Finance (3rd Edition), FT Press, 2012.*
5. *Das, Satyajit, Structured Products, Vol.1 & 2, Wiley, (Latest Edition).*



Trimester 2

2.1 Financial Econometrics

Learning Outcomes

1. To introduce Time Series Econometrics
2. To familiarize students with Time Series Econometrics techniques for solving the issue related to Financial Economics
3. To enable students to use Python and R to handle big data and provide hands-on exercises by providing real-world financial data

Module I : Introduction to Time Series Analysis

- Structure, Processing and Visualization of Time series data, Stationarity process, Modeling Stationary and Non-stationary Univariate Time Series
- Construction of ARMA, ARIMA, SARIMA and GRIMA Models
- Forecasting using an ARMA, ARIMA, SARIMA and GRIMA etc Model.

Module 2: Time-varying Volatility Models

Properties, Types and Estimation of ARCH, GARCH, E-GARCH, T GARCH etc Model-

Module 3: Multivariate Time Series Analysis

Estimation and Forecasting with VAR and SVAR Models, Impulse responses and variance decompositions, Cointegration and Error Correction Models: Linear Combinations of Integrated Variables, Co-integration and Common Trends, Cointegration and Error Correction, Testing for Cointegration- Engle-Granger methodology, Johansen Test

Note: This course will be taught with the help of Python/ R.

Suggested Readings:

Books:

-
1. *Walter Enders (2008), Applied Econometrics Time series, Wiley India Hamilton, JD (1994) Time Series Analysis. Princeton University Press, New Jersey.*
 2. *Judge, G.G., Griffiths, W.E., Hill, R.C., Lutkepohl, H. and Lee, T.C. (1985), The Theory and Practice of Econometrics, 2nd edition John Wiley and Sons, New York.*
 3. *Johnston, J. and Dinardo, D., Econometric Methods, McGraw Hill, New York.*
 4. *Lutkepohl, Helmut (2007) New Introduction to Multiple Time Series Analysis, Springer,*

New York

5. Rao, P., Miller, R. L. (1971), *Applied Econometrics*, Wadsworth Publishing Company.

Recommended Python course (to be completed before the course) -

- <https://www.datacamp.com/courses/intro-to-python-for-data-science>

References for Python (coding) & Financial Econometrics -

6. *Forecasting: Principles and Practice (2nd ed)* - Rob J Hyndman and George Athanasopoulos

<https://otexts.com/fpp2/>

7. *Practical Time Series Analysis* - Dr. Avishek Pal, Dr. PKS Prakash

<https://www.oreilly.com/library/view/practical-time-series/9781788290227/>

8. *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow* - Aurélien Géron

<https://www.knowledgeisle.com/wp-content/uploads/2019/12/2-Aur%C3%A9lien-G%C3%A9ron-Hands-On-Machine-Learning-with-Scikit-Learn-Keras-and-Tensorflow-Concepts-Tools-and-Techniques-to-Build-Intelligent-Systems-O%E2%80%99Reilly-Media-2019.pdf>

9. *Hands -On Time Series Analysis with Python* - Vishwas B V, Patel Ashish

2.2 Financial Economics - 2

Learning Outcomes

1. To acquaint students with basic trading strategies using derivatives (Module I)
2. To introduce to the students the underlying theories about options (Module II)
3. To familiarize students with the applications of futures, derivatives and options theory (Module III)

Module I: The Black Scholes Model

- An introduction to the concept of pricing options
- Black Scholes and other pricing models
- What happens when pricing models go awry?

Module II: Options, Greeks and Case Studies

- The role of the 'Greeks' in pricing options
- An introduction to CDOs and CDS', including synthetic CDO's
- The Evolution of modern finance: a brief

Module III: Case Studies in Modern Finance

- LTCM
- Barings Bank
- The Global Financial Crisis of 2008

Suggested Readings:

Books:

4. *John C Hull: OFOD (8th Edition)*
5. *Money, 10th Ed John Wiley & sons.*
6. *Goldstein, Morris (2006), Financial Regulation after the Subprime and Credit Crisis, Washington: Peterson institute.*

2.3 International Finance

Module I: International flow of funds and International Monetary system

- Balance of Payments (BOP)
- Fundamentals of BOP; Accounting components of BOP
- Factors affecting International Trade and capital flows
- Agencies that facilitate International flows
- Equilibrium & Disequilibrium
- Trade deficits
- Capital account convertibility (Problems on BOP)
- International Monetary System:- Evolution
- Gold Standard
- Bretton Woods System
- The flexible exchange rate regime
- The current exchange rate arrangements
- The Economic and Monetary Union (EMU)



Module II: Foreign Exchange Market & Foreign Exchange exposure

- Function and Structure of the Forex markets
- Foreign exchange market participants
- Types of transactions and Settlements Dates
- Exchange rate quotations
- Nominal, Real and Effective exchange rates
- Determination of Exchange rates in Spot markets
- Exchange rates determinations in Forward markets
- Exchange rate behavior- Cross Rates- Arbitrage profit in foreign exchange markets
- Swift Mechanism ; Triangular and locational arbitrage
- Management of Translation exposure
- Management of Economic exposure
- Management of political Exposure
- Management of Interest rate exposure

Module III : International Financial Markets and Instruments

- Foreign Portfolio Investment ;International Bond & Equity market
- GDR, ADR, Cross-listing of shares Global registered shares
- Foreign Bonds & Eurobonds
- Global Bonds; Floating rate Notes, Zero-coupon Bonds

- International Money Markets International Banking services -Correspondent Bank, Representative offices, Foreign Branches
- Forward Rate Agreements

Module IV : International Parity Relationships & Forecasting Foreign Exchange rate

- Measuring exchange rate movements
- Exchange rate equilibrium
- Factors affecting foreign exchange rate
- Forecasting foreign exchange rates; Interest Rate Parity, Purchasing Power Parity & International Fisher effect
- Covered Interest Arbitrage

Suggested Readings:

Books:

1. *Pilbearn, Keith (2006), International Finance, Palgrave Macmillan*
2. *Heller, H.R (1974), International Monetary Economics, Prentice- Hall, Englewood Cliffs, N.J.*
3. *Thirlwal, A.P (1999)., Balance of Payments Theory, 6th edition, Oxford University Press, New York*
4. *Stern, R.M.(1973), The Balance of Payments, Aldine Publishing Company, New York*
5. *Stern, R.M. (2007), Balance of Payments: Theory and Economic Policy, Aldine Transaction*
6. *Stern, R.M., Forward Exchanges, Speculation and Arbitrage, Quantitative International Economies, Boston Ally and Bacon.*

2.4 Development Finance and Programme Evaluation

Learning Outcomes

1. To acquaint students with development finance (Module I)
2. To introduce basics of program evaluation (Module II)
3. To help students understand DF and PE using three case studies related to DF & PE (Module III)

Module I: Development Finance, An Introduction

- An introduction to the concept of development finance
- The history of development finance in the 20th century
- The limitations of development finance

Module II: The Basics of Programme Evaluation

- The need for systematic evaluation of ongoing programmes
- An introduction to the hurdles in PE, and ways to overcome them
- Frameworks for PE

Module III: Case Studies in Modern Finance

- Public Health
- Public Infrastructure
- Education

Suggested Readings:

Books:

-
1. *John C Hull: OFOD (8th Edition)*
 2. *Giles, Susan L., Blakely, Edward J. (2004), Fundamentals of Economic Development Finance, Sage Publications.*
 3. *Atkinson, A. B. (Editor) (2004), New Sources of Development Finance, Nuffield College, Oxford University.*



The background of the page is a grayscale photograph of a multi-story building with a grid of windows. Bare trees are visible in the foreground and to the right of the building. The overall tone is muted and academic.

Trimester 3

Internship/Academic Research

Students may choose to pursue either an academic research topic under the guidance of faculty member(s) approved by GIPE, *or* choose to undergo a corporate internship.

While assistance will be provided, students are primarily expected to arrange for internships on their own.

GOKHALE INSTITUTE OF POLITICS AND ECONOMICS

(Deemed to be University u/s 3 of the UGC Act, 1956)

Pune - 411004


One-Year Post Graduate Program in Financial Economics (PGPFE)

COURSE STRUCTURE & SYLLABUS

(Effective from the academic year 2022-23)

INDEX

Sr. No.	Course Code	Name of the Course
Trimester 1		
1	1.1	Principles of Finance Using MS Excel
2	1.2	Econometrics for Finance
3	1.3	Financial Economics - 1
4	1.4	Financial Modeling
Trimester 2		
5	2.1	Financial Econometrics
6	2.2	Financial Economics - 2
7	2.3	International Finance
8	2.4	Developmental Finance and Programme Evaluation



Trimester 1

1.1 Principles of Finance Using MS Excel

Learning Outcomes

1. To introduce and reinforce basic concepts and principles in finance using MS-Excel
2. To use these principles to solve real-world financial case studies
3. To understand bond pricing using these principles.

Module I: Basic financial concepts using MS Excel

- Simple and compound interest rates, interest rates using continuous compounding

- The mathematics behind annuities, perpetuities
- Nominal and real rates of interest
- Loan amortization schedules
- Risk, return and the statistical theory underpinning risk and return

Module II: Real-World Financial Case Studies

- Investment evaluation using NPV, IRR, XNPV, MIRR
- PV, FV, PMT, PPMT, CUMPRINC, CUMIPMT and NPER functions in MS Excel
- Solver for Capital Budgeting
- Monte Carlo Simulations using MS Excel
- Pricing Stock Options Using MS Excel

Module III: Bond Pricing Using MS Excel

- Pricing a zero-coupon bond
- Bond pricing, case studies
- Convexity and bond duration using MS Excel
- Calculating default risk

Suggested Readings:

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1. *Wayne L. Winston, Data Analysis and Decision Making, 1st Edition, Microsoft Press*

1.2 Econometrics for Finance

Learning Outcomes

1. To build and enhance grasp of basic concepts and techniques for statistical and econometric analysis
2. To help students understand the appropriate application of econometric techniques to analyze financial data and interpret the results
3. To enable students to use the results of the analysis in financial decision making

Module I: Review of Basic Statistical and Mathematical Concepts

- Distributions: The Poisson Distribution, The Normal Distribution, The Geometric Distribution, The Negative Binomial Distribution, The Gamma Distribution, the Central Limit Theorem,
- Trinity of classical tests (Wald test, Lagrange multiplier, Likelihood ratio)

- Parametric and Nonparametric tests.

Module II: The basic linear regression model

- Estimating the regression parameters by Ordinary Least Squares (OLS), Issues related to Dummy Variable
- Appropriateness and relevance of the choice of functional form
- Violation of OLS assumptions and Diagnosis test and remedies for the Heteroscedasticity, Autocorrelation, multicollinearity, normality

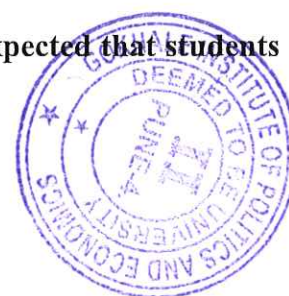
Module III: Discrete and Limited Dependent variable

- Linear Probability Model, Problems relating to LPM, Logit and Probit Model
- Multinomial Choice Models: Ordered Response Model; Unordered Response Model
- Censored and Truncated Regression Model

Note: This course will be taught with the help of Python/ R and it is expected that students acquire some knowledge of Python or R before the course begins.

Suggested Readings:

Books:



1. Judge, G.G. et al., *Introduction to the theory and Practice of econometrics*, 2 nd Edition John Wiley and Sons.
2. Greene, William H., *Econometric Analysis*, Prentice Hall. • Johnston and Dinardo, *Econometric Methods*, 4 th Edition McGraw-Hill International Edition.
3. Wooldridge J., *Introductory Econometrics: A Modern Approach*, South-Western College Pub.
4. Studenmund, A.H., *Using Econometrics: A Practical Guide*, Addison Wesley Publishing Company. Boston,
5. Gujarati, Damodar, *Basic Econometrics*, 4 th Edition, Tata McGraw Hill Publishing Company, New Delhi

Recommended Python course (to be completed before the course) -

- <https://www.datacamp.com/courses/intro-to-python-for-data-science>

References for Python (coding) & Financial Econometrics -

6. *Forecasting: Principles and Practice (2nd ed)* - Rob J Hyndman and George Athanasopoulos
<https://otexts.com/fpp2/>
7. *Practical Time Series Analysis* - Dr. Avishek Pal, Dr. PKS Prakash

<https://www.oreilly.com/library/view/practical-time-series/9781788290227/>

8. *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow - Aurélien Géron*

https://www.knowledgeisle.com/wp-content/uploads/2019/12/2-Aur%C3%A9lien-G%C3%A9ron-Hands-On-Machine-Learning-with-Scikit-Learn-Keras-and-Tensorflow_-Concepts-Tools-and-Techniques-to-Build-Intelligent-Systems-O%E2%80%99Reilly-Media-2019.pdf

9. *Hands-on Time Series Analysis with Python - Vishwas B V, Patel Ashish*

1.3 Financial Economics - 1

Learning Outcomes

1. To acquaint students with the building blocks of derivatives (Module I)
2. To introduce concepts of futures contracts and their applications, including swaps (Module II)
3. To familiarize the students with thinking analytically about options (Module III)

Module I: The Building Blocks of Derivatives

- An introduction to the concept of futures and forwards contracts
- An introduction to the mechanics of options
- How do futures contracts work on exchanges? An introduction to margins
- Hedging and the uses of hedging
- Interest rates, bonds and bond pricing

Module II: Futures Contracts, Their Applications and Swaps

- Forwards and Futures in Detail
- Different types of Futures and Forward Contracts
- Carry Trades | Contango | Backwardation
- Plain Vanilla Swaps and their Pricing
- An introduction to CDS' and their role in the financial crisis of 2008

Module III: An Analytical Introduction to Options

- Options and Their Pricing
- European and American Options
- Put-Call Parity Theorem
- Options Trading Strategies

Suggested Readings:

Books:

1. *John C Hull: OFOD (8th Edition)*
2. *Fabozzi, Frank, Modigliani, Franco, Jones, Frank (Feb 2009), Foundations of Financial Markets*
3. *Howells, Peter, Bain, Keith (2007), Financial Markets and Institutions, 5th Edition.*

1.4 Financial Modeling

Learning Outcomes

1. To acquaint students with the basic building blocks of financial modeling using MS Excel (Module I)
2. To introduce to the students core financial models (Module II)
3. To familiarize students with case studies in portfolio-management using financial modeling

Module I: Introduction to Valuation

- Valuation of Equity Shares A Philosophical Basis for Valuation – The Role of Valuation
- Comparable Company Analysis
- Precedent Transactions Analysis
- DiscountedCash Flow (DCF) analysis
- Dividend Discount Models
- Free Cash Flow to Equity Discount Models
- Free Cash Flow to the Firm



Module II: Financial Models

- IRR and Multiple IRR
- Calculating Cost of Capital
- Gordon Model
- CAPM
- Calculating Cost of Debt
- Financial Statement Modeling
- Sensitivity procedure

Module III: Options valuation / Bonds

- Introduction to portfolio models,
- Calculating efficient portfolios,
- Computing VarianceCovariance Matrix,
- Estimating Betas and Security Market Line,
- The single-index model

Suggested Readings:

Books:

1. *Simon Benninga, Financial Modeling with Excel, 3rd Ed., MIT Press.*
2. *Bill Dalton, Financial Products-An Introduction using Mathematics and Excel, Cambridge.*
3. *Danielle Stein Fairhurst, Using Excel for Business Analysis: A Guide to Financial Modeling Fundamentals, Wiley .*
4. *Day Alastair, Mastering Financial Modeling in Microsoft Excel 3rd Edn: A Practitioner's Guide to Applied Corporate Finance (3rd Edition), FT Press, 2012.*
5. *Das, Satyajit, Structured Products, Vol.1 & 2, Wiley, (Latest Edition).*

Trimester 2

2.1 Financial Econometrics

Learning Outcomes

1. To introduce Time Series Econometrics
2. To familiarize students with Time Series Econometrics techniques for solving the issues related to Financial Economics
3. To enable students to use Python and R to handle big data and provide hands-on exercises by providing real-world financial data

Module I: Introduction to Time Series Analysis

- Structure, Processing and Visualization of Time series data, Stationarity process, Modeling Stationary and Non-stationary Univariate Time Series
- Construction of ARMA, ARIMA, SARIMA and GRIMA Models
- Forecasting using an ARMA, ARIMA, SARIMA and GRIMA etc Model.

Module II: Time-varying Volatility Models

- Properties, Types and Estimation of ARCH, GARCH, E-GARCH, T GARCH etc Model.

Module III: Multivariate Time Series Analysis

- Estimation and Forecasting with VAR and SVAR Models
- Impulse responses and variance decompositions
- Cointegration and Error Correction Models
- Linear Combinations of Integrated Variables
- Co-integration and Common Trends
- Cointegration and Error Correction
- Testing for Cointegration- Engle-Granger methodology, Johansen Test

Note: This course will be taught with the help of

Python/ R.Suggested Readings:

Books:

-
1. *Walter Enders (2008), Applied Econometrics Time series, Wiley India Hamilton, JD (1994) Time Series Analysis. Princeton University Press, New Jersey.*
 2. *Judge, G.G., Griffiths, W.E., Hill, R.C., Lutkepohl, H. and Lee, T.C. (1985), The Theory and Practice of Econometrics, 2nd edition John Wiley and Sons, New*

- York.
3. Johnston, J. and Dinardo, D., *Econometric Methods*, McGraw Hill, New York.
 4. Lutkepohl, Helmut (2007) *New Introduction to Multiple Time Series Analysis*, Springer, New York
 5. Rao, P., Miller, R. L. (1971), *Applied Econometrics*, Wadsworth Publishing Company.

Recommended Python course (to be completed before the course) -

- <https://www.datacamp.com/courses/intro-to-python-for-data-science>

References for Python (coding) & Financial Econometrics -

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<https://www.oreilly.com/library/view/practical-time-series/9781788290227/>
8. *Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow* - Aurélien Géron
https://www.knowledgeisle.com/wp-content/uploads/2019/12/2-Aur%C3%A9lien-G%C3%A9ron-Hands-On-Machine-Learning-with-Scikit-Learn-Keras-and-Tensorflow_-Concepts-Tools-and-Techniques-to-Build-Intelligent-Systems-O%E2%80%99Reilly-Media-2019.pdf
9. *Hands -On Time Series Analysis with Python* - Vishwas B V, Patel Ashish

2.2 Financial Economics - 2

Learning Outcomes

1. To acquaint students with basic trading strategies using derivatives (Module I)
2. To introduce the students the underlying theories about options (Module II)
3. To familiarize students with the applications of futures, derivatives and options theory (Module III)

Module I: The Black Scholes Model

- An introduction to the concept of pricing options
- Black Scholes and other pricing models

- What happens when pricing models go awry?

Module II: Options, Greeks and Case Studies

- The role of the 'Greeks' in pricing options
- An introduction to CDOs and CDS', including synthetic CDO's
- The Evolution of modern finance: a brief

Module III: Case Studies in Modern Finance

- LTCM
- Barings Bank
- The Global Financial Crisis of 2008

Suggested

Readings:

Books:

1. *John C Hull: OFOD (8th Edition)*
2. *Money, 10th Ed John Wiley & sons.*
3. *Goldstein, Morris (2006), Financial Regulation after the Subprime and Credit Crisis, Washington: Peterson institute.*



2.3 International Finance

Module I: International flow of funds and International Monetary system

- Balance of Payments (BOP)
- Fundamentals of BOP; Accounting components of BOP
- Factors affecting International Trade and capital flows
- Agencies that facilitate International flows
- Equilibrium & Disequilibrium
- Trade deficits
- Capital account convertibility (Problems on BOP)
- International Monetary System:- Evolution
- Gold Standard
- Bretton Woods System
- The flexible exchange rate regime

- The current exchange rate arrangements
- The Economic and Monetary Union (EMU)

Module II: Foreign Exchange Market & Foreign Exchange exposure

- Function and Structure of the Forex markets
- Foreign exchange market participants
- Types of transactions and Settlements Dates
- Exchange rate quotations
- Nominal, Real and Effective exchange rates
- Determination of Exchange rates in Spot markets
- Exchange rates determinations in Forward markets
- Exchange rate behavior- Cross Rates- Arbitrage profit in foreign exchange markets
- Swift Mechanism: Triangular and locational arbitrage
- Management of Translation exposure
- Management of Economic exposure
- Management of political Exposure
- Management of Interest rate exposure

Module III: International Financial Markets and Instruments

- Foreign Portfolio Investment: International Bond & Equity market
- GDR, ADR, Cross-listing of shares Global registered shares
- Foreign Bonds & Eurobonds
- Global Bonds; Floating rate Notes, Zero-coupon Bonds
- International Money Markets International Banking services -Correspondent Bank, Representative offices, Foreign Branches
- Forward Rate Agreements

Module IV: International Parity Relationships & Forecasting Foreign Exchange rate

- Measuring exchange rate movements
- Exchange rate equilibrium
- Factors affecting foreign exchange rate
- Forecasting foreign exchange rates; Interest Rate Parity, Purchasing Power Parity & International Fisher effect
- Covered Interest Arbitrage

Suggested

Readings:

Books:

1. *Pilbearn, Keith (2006), International Finance, Palgrave Macmillan*
2. *Heller, H.R (1974), International Monetary Economics, Prentice- Hall, Englewood Cliffs, N.J.*
3. *Thirlwal, A.P (1999)., Balance of Payments Theory, 6th edition, Oxford University Press, New York*
4. *Stern, R.M.(1973), The Balance of Payments, Aldine Publishing Company, New York*
5. *Stern, R.M. (2007), Balance of Payments: Theory and Economic Policy, Aldine Transaction*
6. *Stern, R.M., Forward Exchanges, Speculation and Arbitrage, Quantitative International Economics, Boston Allyn and Bacon.*

2.4 Development Finance and Programme Evaluation

Learning Outcomes

1. To acquaint students with development finance (Module I)
2. To introduce basics of program evaluation (Module II)
3. To help students understand DF and PE using three case studies related to DF & PE (Module III)

Module I: Development Finance, An Introduction

- An introduction to the concept of development finance
- The history of development finance in the 20th century
- The limitations of development finance



Module II: The Basics of Programme Evaluation

- The need for systematic evaluation of ongoing programmes
- An introduction to the hurdles in PE, and ways to overcome them
- Frameworks for PE

Module III: Case Studies in Modern Finance

- Public Health
- Public Infrastructure
- Education

Suggested

Readings:

Books:

1. *John C Hull: OFOD (8th Edition)*
2. *Giles, Susan L., Blakely, Edward J. (2004), Fundamentals of Economic Development Finance, Sage Publications.*
3. *Atkinson, A. B. (Editor) (2004), New Sources of Development Finance, Nuffield College, Oxford University.*

Trimester 3

Internship /Academic Research

Students may choose to pursue either an academic research topic under the guidance of faculty member(s) approved by GIPE, *or* choose to undergo a corporate internship.

While assistance will be provided, students are primarily expected to arrange for internships on their own.