CFA LEVEL I CURRICULUM 2020 vs 2022

Los Changes

Quantitative Methods

2020		2022	
STUDY SESSION 2		**STUDY SESSION 1**	
BOX 1			
READING 6. THE TIME VALUE OF MONEY		**READING 1. THE TIME VALUE OF MONEY**	
LOS		**LOS**	
a	interpret interest rates as required rates of return, discount rates, or opportunity costs;	a	interpret interest rates as required rates of return, discount rates, or opportunity costs;
b	explain an interest rate as the sum of a real risk-free rate and premiums thatcompensate investors for bearing distinct types of risk;	b	explain an interest rate as the sum of a real risk-free rate and premiums thatcompensate investors for bearing distinct types of risk;
c	calculate and interpret the effective annual rate, given the stated annual interest rate and the frequency of compounding;	c	calculate and interpret the effective annual rate, given the stated annual interest rate and the frequency of compounding;
d	solve time value of money problems for different frequencies of compounding;	d	calculate the solution for time value of money problems with different frequencies of compounding;
e	calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows;	e	calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows;
f	demonstrate the use of a time line in modeling and solving time value of money problems.	f	demonstrate the use of a time line in modeling and solving time value of money problems.

Change   Removed   Introduce

2020	2022
STUDY SESSION 2	**STUDY SESSION 1**
BOX 2	
READING 7. STATISTICAL CONCEPTS AND MARKET RETURNS	**READING 2. ORGANIZING, VISUALIZING, AND DESCRIBING DATA**

		LOS	
		a	**identify and compare data types;**
		b	**describe how data are organized for quantitative analysis;**
		c	**interpret frequency and related distributions;**
		d	**interpret a contingency table;**
	Removed	**e**	**describe ways that data may be visualized and evaluate uses of specific visualizations;**
		f	**describe how to select among visualization types;**
		g	**calculate and interpret measures of central tendency;**
		h	**evaluate alternative definitions of mean to address an investment problem;**
		i	**calculate quantiles and interpret related visualizations;**
		j	**calculate and interpret measures of dispersion;**
		k	**calculate and interpret target downside deviation;**
		l	**interpret skewness;**
		m	**interpret kurtosis;**
		n	**interpret correlation between two variables.**

Change	Removed	Introduce

LOS	READING 8. PROBABILITY CONCEPTS	LOS	READING 3. PROBABILITY CONCEPTS
a	define a random variable, an outcome, an event, mutually exclusive events, and exhaustive events;	a	**define a random variable, an outcome, and an event;**
b	state the two defining properties of probability and distinguish among empirical, subjective, and a priori probabilities;	b	**identify the two defining properties of probability, including mutually exclusive and exhaustive events,and compare and contrast empirical, subjective, and a priori probabilities;**
c	state the probability of an event in terms of odds for and against the event;	c	describe the probability of an event in terms of odds for and against the event;
d	distinguish between unconditional and conditional probabilities;	d	**calculate and interpret conditional probabilities;**
e	explain the multiplication, addition, and total probability rules;	e	**demonstrate the application of the multiplication and addition rules for probability;**
f	**calculate and interpret 1) the joint probability of two events, 2) the probability that at least one of two events will occur, given the probability of each and the joint probability of the two events, and 3) a joint probability of any number of independent events;**	f	compare and contrast dependent and independent events;**(Los g in 2020)**
g	distinguish between dependent and independent events;	g	calculate and interpret an unconditional probability using the total probabilityrule;**(Los h in 2020)**
h	calculate and interpret an unconditional probability using the total probability rule;	h	**calculate and interpret the expected value, variance, and standard deviation of random variables;(Los l in 2020)**
i	explain the use of conditional expectation in investment applications;	i	explain the use of conditional expectation in investment applications;
j	explain the use of a tree diagram to represent an investment problem;	j	**interpret a probability tree and demonstrate its application to investment problems;**
k	calculate and interpret covariance and correlation and interpret a scatterplot;	k	**calculate and interpret the expected value, variance, standard deviation, covariances, and correlations of portfolio returns;**

Change	Removed	Introduce

l	calculate and interpret the expected value, variance, and standard deviation of arandom variable and of returns on a portfolio;	l	**calculate and interpret the covariances of portfolio returns using the joint probability function;(Los m in 2020)**
m	calculate and interpret covariance given a joint probability function;	m	calculate and interpret an updated probability using Bayes' formula;**(Los n in 2020)**
n	calculate and interpret an updated probability using Bayes' formula;	n	identify the most appropriate method to solve a particular counting problem and analyze counting problems using factorial, combination, and permutation concepts.**(Los o in 2020)**
o	identify the most appropriate method to solve a particular counting problemand solve counting problems using factorial, combination, and permutation concepts.		

Change	Removed	Introduce

	2020			2022	
	STUDY SESSION 3			**STUDY SESSION 2**	
			BOX 4		
	READING 9. COMMON PROBABILITY DISTRIBUTIONS			**READING 4. COMMON PROBABILITY DISTRIBUTIONS**	
LOS			**LOS**		
a	define a probability distribution and distinguish between discrete and continuous random variables and their probability functions;		a	define a probability distribution and compare and contrast discrete and continuous random variables and their probability functions;	
b	describe the set of possible outcomes of a specified discrete random variable;		b	calculate and interpret probabilities for a random variable given its cumulative distribution function;	
c	interpret a cumulative distribution function;		c	describe the properties of a discrete uniform random variable, and calculate and interpret probabilities given the discrete uniform distribution function;	
d	calculate and interpret probabilities for a random variable, given its cumulativedistribution function;		d	describe the properties of the continuous uniform distribution, and calculate and interpret probabilities given a continuous uniform distribution;	
e	define a discrete uniform random variable, a Bernoulli random variable, and a binomial random variable;		e	describe the properties of a Bernoulli random variable and a binomial random variable, and calculate and interpret probabilities given the binomial distribution function;	
f	calculate and interpret probabilities given the discrete uniform and the binomial distribution functions;		f	explain the key properties of the normal distribution;	
g	construct a binomial tree to describe stock price movement;		g	contrast a multivariate distribution and a univariate distribution, and explain the role of correlation in the multivariate normal distribution;	
h	define the continuous uniform distribution and calculate and interpret probabilities, given a continuous uniform distribution;		h	calculate the probability that a normally distributed random variable lies inside a given interval;	
i	explain the key properties of the normal distribution;		i	explain how to standardize a random variable;	
j	distinguish between a univariate and a multivariate distribution and explain the role of correlation in the multivariate normal distribution;		j	calculate and interpret probabilities using the standard normal distribution;	
k	determine the probability that a normally distributed random		k	define shortfall risk, calculate the safety-first ratio, and identify an	

Change	Removed	Introduce

	variable lies inside a given interval;			optimal port-folio using Roy's safety-first criterion;
l	define the standard normal distribution, explain how to standardize a random variable, and calculate and interpret probabilities using the standard normal distribution;		l	explain the relationship between normal and lognormal distributions and why the lognormal distribution is used to model asset prices;
m	define shortfall risk, calculate the safety-first ratio, and select an optimal portfolio using Roy's safety-first criterion;		m	calculate and interpret a continuously compounded rate of return, given a specific holding period return;
n	explain the relationship between normal and lognormal distributions and why the lognormal distribution is used to model asset prices;		n	describe the properties of the Student's t-distribution, and calculate and interpret its degrees of freedom;
o	distinguish between discretely and continuously compounded rates of return and calculate and interpret a continuously compounded rate of return, given a specific holding period return;		o	describe the properties of the chi-square distribution and the F-distribution,and calculate and interpret their degrees of freedom;
p	explain Monte Carlo simulation and describe its applications and limitations;		p	describe Monte Carlo simulation.
q	compare Monte Carlo simulation and historical simulation.			

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Introduce

2020		2022	
STUDY SESSION 3		**STUDY SESSION 2**	
BOX 5			
READING 10. SAMPLING AND ESTIMATION		**READING 5. SAMPLING AND ESTIMATION**	
LOS		**LOS**	
a	define simple random sampling and a sampling distribution;	a	compare and contrast probability samples with non-probability samples anddiscuss applications of each to an investment problem;
b	explain sampling error;	b	explain sampling error;
c	distinguish between simple random and stratified random sampling;	c	compare and contrast simple random, stratified random, cluster, convenience,and judgmental sampling;
d	distinguish between time-series and cross-sectional data;	d	explain the central limit theorem and its importance;
e	explain the central limit theorem and its importance;	e	calculate and interpret the standard error of the sample mean;
f	calculate and interpret the standard error of the sample mean;	f	identify and describe desirable properties of an estimator;
g	identify and describe desirable properties of an estimator;	g	contrast a point estimate and a confidence interval estimate of a population parameter;
h	distinguish between a point estimate and a confidence interval estimate of apopulation parameter;	h	calculate and interpret a confidence interval for a population mean, given a nor- mal distribution with 1) a known population variance, 2) an unknown population variance, or 3) an unknown population variance and a large sample size;
i	describe properties of Student's t-distribution and calculate and interpret its degrees of freedom;	i	describe the use of resampling (bootstrap, jackknife) to estimate the sampling distribution of a statistic.
j	calculate and interpret a confidence interval for a population mean, given a nor- mal distribution with 1) a known population variance, 2) an unknown population variance, or 3) an unknown population variance and a large sample size;	j	describe the issues regarding selection of the appropriate sample size, data snooping bias, sample selection bias, survivorship bias, look-ahead bias, andtime- period bias.
k	describe the issues regarding selection of the appropriate sample size, data- mining bias, sample selection bias, survivorship bias, look-ahead bias, and time-period bias.			

Change	Removed	Introduce

LOS		LOS	
a	define a hypothesis, describe the steps of hypothesis testing, and describe and interpret the choice of the null and alternative hypotheses;	a	define a hypothesis, describe the steps of hypothesis testing, and describe and interpret the choice of the null and alternative hypotheses;
b	distinguish between one-tailed and two-tailed tests of hypotheses;	b	compare and contrast one-tailed and two-tailed tests of hypotheses;
c	explain a test statistic, Type I and Type II errors, a significance level, and how significance levels are used in hypothesis testing;	c	**explain a test statistic, Type I and Type II errors, a significance level, how significance levels are used in hypothesis testing,and the power of a test;**
d	explain a decision rule, the power of a test, and the relation between confidence intervals and hypothesis tests;	d	**explain a decision rule and the relation between confidence intervals and hypothesis tests, and determine whether a statistically significant result is also economically meaningful.**
e	distinguish between a statistical result and an economically meaningful result;	e	explain and interpret the p-value as it relates to hypothesis testing;**(Los f in 2020)**
f	explain and interpret the p-value as it relates to hypothesis testing;	f	**describe how to interpret the significance of a test in the context of multiple tests;**
g	identify the appropriate test statistic and interpret the results for a hypothesistest concerning the population mean of both large and small samples when the population is normally or approximately normally distributed and the variance is 1) known or 2) unknown;	g	identify the appropriate test statistic and interpret the results for a hypothesis test concerning the population mean of both large and small samples when the population is normally or approximately normally distributed and the variance is (1) known or (2) unknown;
h	identify the appropriate test statistic and interpret the results for a hypothesis test concerning the equality of the population means of two at least approximately normally distributed populations, based on independent random samples with 1) equal or 2) unequal assumed variances;	h	**identify the appropriate test statistic and interpret the results for a hypothesis test concerning the equality of the population means of two at least approximately normally distributed populations based on independent random samples with equal assumed variances;**

Change	Removed	Introduce

i	identify the appropriate test statistic and interpret the results for a hypothesis test concerning the mean difference of two normally distributed populations;	i	identify the appropriate test statistic and interpret the results for a hypothesis test concerning the mean difference of two normally distributed populations;
j	identify the appropriate test statistic and interpret the results for a hypothesis test concerning 1) the variance of a normally distributed population, and 2) the equality of the variances of two normally distributed populations based on two independent random samples;	j	identify the appropriate test statistic and interpret the results for a hypothesis test concerning (1) the variance of a normally distributed population and (2) the equality of the variances of two normally distributed populations based on two independent random samples;
k	formulate a test of the hypothesis that the population correlation coefficient equals zero and determine whether the hypothesis is rejected at a given level of significance;	k	compare and contrast parametric and nonparametric tests, and describe situations where each is the more appropriate type of test;**(Los l in 2020)**
l	distinguish between parametric and nonparametric tests and describe situations in which the use of nonparametric tests may be appropriate.	l	**explain parametric and nonparametric tests of the hypothesis that the population correlation coefficient equals zero, and determine whether the hypothesis is rejected at a given level of significance;**
		m	**explain tests of independence based on contingency table data.**

Change	Removed	Introduce

2020		2022
		STUDY SESSION 2
		BOX 7
		READING 7. INTRODUCTION TO LINEAR REGRESSION
	LOS	
	a	describe a simple linear regression model and the roles of the dependent and independent variables in the model;
	b	describe the least squares criterion, how it is used to estimate regression coefficients, and their interpretation;
	c	explain the assumptions underlying the simple linear regression model, and describe how residuals and residual plots indicate if these assumptions may have been violated;
	d	calculate and interpret the coefficient of determination and the F-statistic in a simple linear regression;
	e	describe the use of analysis of variance (ANOVA) in regression analysis, interpret ANOVA results, and calculate and interpret the standard error of estimate in a simple linear regression;
	f	formulate a null and an alternative hypothesis about a population value of a regression coefficient, and determine whether the null hypothesis is rejected at a given level of significance;
	g	calculate and interpret the predicted value for the dependent variable, and a prediction interval for it, given an estimated linear regression model and a value for the independent variable;
	h	describe different functional forms of simple linear regressions.

Change	Removed	Introduce

Economics

2020	2022
STUDY SESSION 4	**STUDY SESSION 3**
BOX 8	
READING 12. TOPICS IN DEMAND AND SUPPLY ANALYSIS	**READING 8. TOPICS IN DEMAND AND SUPPLY ANALYSIS**

LOS		LOS	
a	calculate and interpret price, income, and cross-price elasticities of demand anddescribe factors that affect each measure;	a	calculate and interpret price, income, and cross-price elasticities of demand anddescribe factors that affect each measure;
b	compare substitution and income effects;	b	compare substitution and income effects;
c	distinguish between normal goods and inferior goods;	c	contrast normal goods with inferior goods;
d	describe the phenomenon of diminishing marginal returns;	d	describe the phenomenon of diminishing marginal returns;
e	determine and interpret breakeven and shutdown points of production;	e	determine and interpret breakeven and shutdown points of production;
f	describe how economies of scale and diseconomies of scale affect costs.	f	describe how economies of scale and diseconomies of scale affect costs.

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Removed

Introduce

2020		2022	
STUDY SESSION 4		**STUDY SESSION 3**	
BOX 9			
READING 13. THE FIRM AND MARKET STRUCTURES		**READING 9. THE FIRM AND MARKET STRUCTURES**	
LOS		**LOS**	
a	describe characteristics of perfect competition, monopolistic competition, oligopoly, and pure monopoly;	a	describe characteristics of perfect competition, monopolistic competition, oligopoly, and pure monopoly;
b	explain relationships between price, marginal revenue, marginal cost, economic profit, and the elasticity of demand under each market structure;	b	explain relationships between price, marginal revenue, marginal cost, economic profit, and the elasticity of demand under each market structure;
c	describe a firm's supply function under each market structure;	c	describe a firm's supply function under each market structure;
d	describe and determine the optimal price and output for firms under each market structure;	d	describe and determine the optimal price and output for firms under each market structure;
e	explain factors affecting long-run equilibrium under each market structure;	e	explain factors affecting long-run equilibrium under each market structure;
f	describe pricing strategy under each market structure;	f	describe pricing strategy under each market structure;
g	describe the use and limitations of concentration measures in identifying market structure;	g	describe the use and limitations of concentration measures in identifying market structure;
h	identify the type of market structure within which a firm operates.	h	identify the type of market structure within which a firm operates.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 4		**STUDY SESSION 3**	
BOX 10			
READING 14. AGGREGATE OUTPUT, PRICES, AND ECONOMIC GROWTH		**READING 10. AGGREGATE OUTPUT, PRICES, AND ECONOMIC GROWTH**	
LOS		**LOS**	
a	calculate and explain gross domestic product (GDP) using expenditure and income approaches;	a	calculate and explain gross domestic product (GDP) using expenditure and income approaches;
b	compare the sum-of-value-added and value-of-final output methods of calculating GDP;	b	compare the sum-of-value-added and value-of-final output methods of calculating GDP;
c	compare nominal and real GDP and calculate and interpret the GDP deflator;	c	compare nominal and real GDP and calculate and interpret the GDP deflator;
d	compare GDP, national income, personal income, and personal disposableincome;	d	compare GDP, national income, personal income, and personal disposableincome;
e	explain the fundamental relationship among saving, investment, the fiscal balance, and the trade balance;	e	explain the fundamental relationship among saving, investment, the fiscal balance, and the trade balance;
f	explain the IS and LM curves and how they combine to generate the aggregate demand curve;	f	**explain how the aggregate demand curve is generated;**
g	explain the aggregate supply curve in the short run and long run;	g	explain the aggregate supply curve in the short run and long run;
h	explain causes of movements along and shifts in aggregate demand and supply curves;	h	explain causes of movements along and shifts in aggregate demand and supplycurves;
i	describe how fluctuations in aggregate demand and aggregate supply cause short-run changes in the economy and the business cycle;	i	describe how fluctuations in aggregate demand and aggregate supply cause short-run changes in the economy and the business cycle;
j	distinguish between the following types of macroeconomic equilibria: long-run full employment, short-run recessionary gap, short-run inflationary gap, andshort- run stagflation;	j	distinguish among the following types of macroeconomic equilibria: long-run full employment, short-run recessionary gap, short-run inflationary gap, andshort- run stagflation;
k	explain how a short-run macroeconomic equilibrium may occur at a	k	explain how a short-run macroeconomic equilibrium may occur at a

Change	**Removed**	**Introduce**

	level aboveor below full employment;			level aboveor below full employment;
l	analyze the effect of combined changes in aggregate supply and demand on the economy;		l	analyze the effect of combined changes in aggregate supply and demand on the economy;
m	describe sources, measurement, and sustainability of economic growth;		m	describe sources, measurement, and sustainability of economic growth;
n	describe the production function approach to analyzing the sources of economic growth;		n	describe the production function approach to analyzing the sources of economic growth;
o	distinguish between input growth and growth of total factor productivity as components of economic growth.		o	define and contrast input growth with growth of total factor productivity as components of economic growth.

Change   **Removed**   **Introduce**

	2020			2022	
	STUDY SESSION 4			**STUDY SESSION 3**	
	BOX 11				
	READING 15. UNDERSTANDING BUSINESS CYCLES			**READING 11. UNDERSTANDING BUSINESS CYCLES**	
LOS			**LOS**		
a	describe the business cycle and its phases;		a	describe the business cycle and its phases;	
b	describe how resource use, housing sector activity, and external trade sector activity vary as an economy moves through the business cycle;		b	**describe credit cycles;**	
c	describe theories of the business cycle;		c	describe how resource use, consumer and business activity, housing sectoractivity, and external trade sector activity vary as an economy moves through the business cycle;**(Los b in 2020)**	
d	describe types of unemployment and compare measures of unemployment;		d	describe theories of the business cycle;**(Los c in 2020)**	
e	explain inflation, hyperinflation, disinflation, and deflation;		e	interpret a set of economic indicators, and describe their uses and limitations;**(Los i in 2020)**	
f	explain the construction of indexes used to measure inflation;		f	describe types of unemployment, and compare measures of unemployment;**(Los d in 2020)**	
g	compare inflation measures, including their uses and limitations;		g	explain inflation, hyperinflation, disinflation, and deflation;**(Los e in 2020)**	
h	distinguish between cost-push and demand-pull inflation;		h	explain the construction of indexes used to measure inflation;**(Los f in 2020)**	
i	interpret a set of economic indicators and describe their uses and limitations.		i	compare inflation measures, including their uses and limitations;**(Los g in 2020)**	
			j	contrast cost-push and demand-pull inflation.**(Los h in 2020)**	

Change	Removed	Introduce

2020		2022	
STUDY SESSION 5		**STUDY SESSION 4**	
BOX 12			
READING 16. MONETARY AND FISCAL POLICY		**READING 12. MONETARY AND FISCAL POLICY**	
LOS		**LOS**	
a	compare monetary and fiscal policy;	a	compare monetary and fiscal policy;
b	describe functions and definitions of money;	b	describe functions and definitions of money;
c	explain the money creation process;	c	explain the money creation process;
d	describe theories of the demand for and supply of money;	d	describe theories of the demand for and supply of money;
e	describe the Fisher effect;	e	describe the Fisher effect;
f	describe roles and objectives of central banks;	f	describe roles and objectives of central banks;
g	contrast the costs of expected and unexpected inflation;	g	contrast the costs of expected and unexpected inflation;
h	describe tools used to implement monetary policy;	h	describe tools used to implement monetary policy;
i	describe the monetary transmission mechanism;	i	describe the monetary transmission mechanism;
j	describe qualities of effective central banks;	j	describe qualities of effective central banks;
k	explain the relationships between monetary policy and economic growth, inflation, interest, and exchange rates;	k	explain the relationships between monetary policy and economic growth, inflation, interest, and exchange rates;
l	contrast the use of inflation, interest rate, and exchange rate targeting by central banks;	l	contrast the use of inflation, interest rate, and exchange rate targeting by central banks;
m	determine whether a monetary policy is expansionary or contractionary;	m	determine whether a monetary policy is expansionary or contractionary;
n	describe limitations of monetary policy;	n	describe limitations of monetary policy;
o	describe roles and objectives of fiscal policy;	o	describe roles and objectives of fiscal policy;
p	describe tools of fiscal policy, including their advantages and disadvantages;	p	describe tools of fiscal policy, including their advantages and disadvantages;
q	describe the arguments about whether the size of a national debt relative toGDP matters;	q	describe the arguments about whether the size of a national debt relative toGDP matters;
r	explain the implementation of fiscal policy and difficulties of	r	explain the implementation of fiscal policy and difficulties of

Change	Removed	Introduce

	implementation;		implementation;
s	determine whether a fiscal policy is expansionary or contractionary;	s	determine whether a fiscal policy is expansionary or contractionary;
t	explain the interaction of monetary and fiscal policy.	t	explain the interaction of monetary and fiscal policy.

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Removed

Introduce

2020		2022	
STUDY SESSION 5		**STUDY SESSION 4**	
BOX 13			
READING 17. INTERNATIONAL TRADE AND CAPITAL FLOWS		**READING 13. INTERNATIONAL TRADE AND CAPITAL FLOWS**	
LOS		**LOS**	
a	compare gross domestic product and gross national product;	a	compare gross domestic product and gross national product;
b	describe benefits and costs of international trade;	b	describe benefits and costs of international trade;
c	distinguish between comparative advantage and absolute advantage;	c	contrast comparative advantage and absolute advantage;
d	compare the Ricardian and Heckscher–Ohlin models of trade and the source(s)of comparative advantage in each model;	d	compare the Ricardian and Heckscher–Ohlin models of trade and the source(s)of comparative advantage in each model;
e	compare types of trade and capital restrictions and their economic implications;	e	compare types of trade and capital restrictions and their economic implications;
f	explain motivations for and advantages of trading blocs, common markets, andeconomic unions;	f	explain motivations for and advantages of trading blocs, common markets, andeconomic unions;
g	describe common objectives of capital restrictions imposed by governments;	g	describe common objectives of capital restrictions imposed by governments;
h	describe the balance of payments accounts including their components;	h	describe the balance of payments accounts including their components;
i	explain how decisions by consumers, firms, and governments affect the balanceof payments;	i	explain how decisions by consumers, firms, and governments affect the balanceof payments;
j	describe functions and objectives of the international organizations that facilitate trade, including the World Bank, the International Monetary Fund, and the World Trade Organization.	j	describe functions and objectives of the international organizations that facilitate trade, including the World Bank, the International Monetary Fund, and the World Trade Organization.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 5		**STUDY SESSION 4**	
BOX 14			
READING 18. CURRENCY EXCHANGE RATES		**READING 14. CURRENCY EXCHANGE RATES**	
LOS		**LOS**	
a	define an exchange rate and distinguish between nominal and real exchange rates and spot and forward exchange rates;	a	define an exchange rate and distinguish between nominal and real exchange rates and spot and forward exchange rates;
b	describe functions of and participants in the foreign exchange market;	b	describe functions of and participants in the foreign exchange market;
c	calculate and interpret the percentage change in a currency relative to another currency;	c	calculate and interpret the percentage change in a currency relative to another currency;
d	calculate and interpret currency cross-rates;	d	calculate and interpret currency cross-rates;
e	convert forward quotations expressed on a points basis or in percentage terms into an outright forward quotation;	e	**calculate an outright forward quotation from forward quotations expressed on a points basis or in percentage terms;**
f	explain the arbitrage relationship between spot rates, forward rates, and interest rates;	f	explain the arbitrage relationship between spot rates, forward rates, and interest rates;
g	calculate and interpret a forward discount or premium;	g	calculate and interpret a forward discount or premium;
h	calculate and interpret the forward rate consistent with the spot rate and the interest rate in each currency;	h	calculate and interpret the forward rate consistent with the spot rate and the interest rate in each currency;
i	describe exchange rate regimes;	i	describe exchange rate regimes;
j	explain the effects of exchange rates on countries' international trade and capital flows.	j	explain the effects of exchange rates on countries' international trade and capital flows.

Change	Removed	Introduce

Financial Statement Analysis

2020		2022	
STUDY SESSION 6		**STUDY SESSION 5**	
BOX 15			
READING 19. INTRODUCTION TO FINANCIAL STATEMENT ANALYSIS		**READING 15. INTRODUCTION TO FINANCIAL STATEMENT ANALYSIS**	
LOS		**LOS**	
a	describe the roles of financial reporting and financial statement analysis;	a	describe the roles of financial reporting and financial statement analysis;
b	describe the roles of the statement of financial position, statement of comprehensive income, statement of changes in equity, and statement of cash flows inevaluating a company's performance and financial position;	b	describe the roles of the statement of financial position, statement of comprehensive income, statement of changes in equity, and statement of cash flows inevaluating a company's performance and financial position;
c	describe the importance of financial statement notes and supplementary information—including disclosures of accounting policies, methods, and estimates— and management's commentary;	c	describe the importance of financial statement notes and supplementary information—including disclosures of accounting policies, methods, and estimates— and management's commentary;
d	describe the objective of audits of financial statements, the types of audit reports, and the importance of effective internal controls;	d	describe the objective of audits of financial statements, the types of audit reports, and the importance of effective internal controls;
e	identify and describe information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information;	e	identify and describe information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information;
f	describe the steps in the financial statement analysis framework.	f	describe the steps in the financial statement analysis framework.

Change	Removed	Introduce

2020	2022
STUDY SESSION 6	**STUDY SESSION 5**
BOX 16	
READING 20. FINANCIAL REPORTING STANDARDS	**READING 16. FINANCIAL REPORTING STANDARDS**

LOS		LOS	
a	describe the objective of financial reporting and the importance of financial reporting standards in security analysis and valuation;	a	describe the objective of financial reporting and the importance of financial reporting standards in security analysis and valuation;
b	describe the roles of financial reporting standard-setting bodies and regulatoryauthorities in establishing and enforcing reporting standards;	b	describe the roles of financial reporting standard-setting bodies and regulatoryauthorities in establishing and enforcing reporting standards;
c	describe the International Accounting Standards Board's conceptual framework, including qualitative characteristics of financial reports, constraints on financial reports, and required reporting elements;	c	describe the International Accounting Standards Board's conceptual framework, including qualitative characteristics of financial reports, constraints on financial reports, and required reporting elements;
d	describe general requirements for financial statements under International Financial Reporting Standards (IFRS);	d	describe general requirements for financial statements under International Financial Reporting Standards (IFRS);
e	describe implications for financial analysis of alternative financial reporting systems and the importance of monitoring developments in financial reporting standards.	e	describe implications for financial analysis of alternative financial reporting systems and the importance of monitoring developments in financial reporting standards.

Change	Removed	Introduce

	2020			2022	
	STUDY SESSION 7			**STUDY SESSION 6**	
		BOX 17			
	READING 21. UNDERSTANDING INCOME STATEMENTS			**READING 17. UNDERSTANDING INCOME STATEMENTS**	
LOS			**LOS**		
a	describe the components of the income statement and alternative presentation formats of that statement;		a	describe the components of the income statement and alternative presentation formats of that statement;	
b	Describe general principles of revenue recognition and accounting standards for revenue recognition;		b	describe general principles of revenue recognition and accounting standards for revenue recognition;	
c	calculate revenue given information that might influence the choice of revenue recognition method;		c	calculate revenue given information that might influence the choice of revenue recognition method;	
d	describe general principles of expense recognition, specific expense recognition applications, and implications of expense recognition choices for financial analysis;		d	describe general principles of expense recognition, specific expense recognition applications, and implications of expense recognition choices for financial analysis;	
e	describe the financial reporting treatment and analysis of non-recurring items(including discontinued operations, unusual or infrequent items) and changes in accounting policies;		e	describe the financial reporting treatment and analysis of non-recurring items(including discontinued operations, unusual or infrequent items) and changes in accounting policies;	
f	distinguish between the operating and non-operating components of theincome statement;		f	contrast operating and non-operating components of the income statement;	
g	describe how earnings per share is calculated and calculate and interpret a company's earnings per share (both basic and diluted earnings per share) for both simple and complex capital structures;		g	describe how earnings per share is calculated and calculate and interpret a company's earnings per share (both basic and diluted earnings per share) for both simple and complex capital structures;	
h	distinguish between dilutive and antidilutive securities and describe the implications of each for the earnings per share calculation;		h	contrast dilutive and antidilutive securities and describe the implications of each for the earnings per share calculation;	
i	convert income statements to common-size income statements;		i	formulate income statements into common-size income statements;	
j	evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement;		j	evaluate a company's financial performance using common-size income statements and financial ratios based on the income statement;	

Change	Removed	Introduce

k	describe, calculate, and interpret comprehensive income;	k	describe, calculate, and interpret comprehensive income;
l	describe other comprehensive income and identify major types of itemsincluded in it.	l	describe other comprehensive income and identify major types of itemsincluded in it.

2020		2022	
STUDY SESSION 7		**STUDY SESSION 6**	
BOX 18			
READING 22. UNDERSTANDING BALANCE SHEETS		**READING 18. UNDERSTANDING BALANCE SHEETS**	
LOS		**LOS**	
a	describe the elements of the balance sheet: assets, liabilities, and equity;	a	describe the elements of the balance sheet: assets, liabilities, and equity;
b	describe uses and limitations of the balance sheet in financial analysis;	b	describe uses and limitations of the balance sheet in financial analysis;
c	describe alternative formats of balance sheet presentation;	c	describe alternative formats of balance sheet presentation;
d	distinguish between current and non-current assets and current and non-current liabilities;	d	contrast current and non-current assets and current and non-current liabilities;
e	describe different types of assets and liabilities and the measurement bases of each;	e	describe different types of assets and liabilities and the measurement bases of each;
f	describe the components of shareholders' equity;	f	describe the components of shareholders' equity;
g	convert balance sheets to common-size balance sheets and interpret common-size balance sheets;	g	**demonstrate the conversion of balance sheets to common-size balance sheets and interpret common-size balance sheets;**
h	calculate and interpret liquidity and solvency ratios.	h	calculate and interpret liquidity and solvency ratios.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 7		**STUDY SESSION 6**	
BOX 19			
READING 23. UNDERSTANDING CASH FLOW STATEMENTS		**READING 19. UNDERSTANDING CASH FLOW STATEMENTS**	
LOS		**LOS**	
a	compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items;	a	compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items;
b	describe how non-cash investing and financing activities are reported;	b	describe how non-cash investing and financing activities are reported;
c	contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (US GAAP);	c	contrast cash flow statements prepared under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (US GAAP);
d	distinguish between the direct and indirect methods of presenting cash from operating activities and describe arguments in favor of each method;	d	compare and contrast the direct and indirect methods of presenting cash from operating activities and describe arguments in favor of each method;
e	describe how the cash flow statement is linked to the income statement and the balance sheet;	e	describe how the cash flow statement is linked to the income statement and the balance sheet;
f	describe the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data;	f	describe the steps in the preparation of direct and indirect cash flow statements, including how cash flows can be computed using income statement and balance sheet data;
g	convert cash flows from the indirect to direct method;	g	**demonstrate the conversion of cash flows from the indirect to direct method;**
h	analyze and interpret both reported and common-size cash flow statements;	h	analyze and interpret both reported and common-size cash flow statements;
i	calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.	i	calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 7		**STUDY SESSION 6**	
BOX 20			
READING 24. FINANCIAL ANALYSIS TECHNIQUES		**READING 20. FINANCIAL ANALYSIS TECHNIQUES**	
LOS		**LOS**	
a	describe tools and techniques used in financial analysis, including their uses and limitations;	a	describe tools and techniques used in financial analysis, including their uses and limitations;
b	classify, calculate, and interpret activity, liquidity, solvency, profitability, and valuation ratios;	b	identify, calculate, and interpret activity, liquidity, solvency, profitability, and valuation ratios;
c	describe relationships among ratios and evaluate a company using ratio analysis;	c	describe relationships among ratios and evaluate a company using ratio analysis;
d	demonstrate the application of DuPont analysis of return on equity and calculate and interpret effects of changes in its components;	d	demonstrate the application of DuPont analysis of return on equity and calculate and interpret effects of changes in its components;
e	calculate and interpret ratios used in equity analysis and credit analysis;	e	calculate and interpret ratios used in equity analysis and credit analysis;
f	explain the requirements for segment reporting and calculate and interpret segment ratios;	f	explain the requirements for segment reporting and calculate and interpret segment ratios;
g	describe how ratio analysis and other techniques can be used to model and forecast earnings.	g	describe how ratio analysis and other techniques can be used to model and forecast earnings.

Change

Removed

Introduce

2020		2022	
STUDY SESSION 8		**STUDY SESSION 7**	
BOX 21			
READING 25. INVENTORIES		**READING 21. INVENTORIES**	
LOS		**LOS**	
a	distinguish between costs included in inventories and costs recognised as expenses in the period in which they are incurred;	a	contrast costs included in inventories and costs recognised as expenses in the period in which they are incurred;
b	describe different inventory valuation methods (cost formulas);	b	describe different inventory valuation methods (cost formulas);
c	calculate and compare cost of sales, gross profit, and ending inventory using different inventory valuation methods and using perpetual and periodic inventory systems;	c	calculate and compare cost of sales, gross profit, and ending inventory using different inventory valuation methods and using perpetual and periodic inventory systems;
d	calculate and explain how inflation and deflation of inventory costs affect the financial statements and ratios of companies that use different inventory valuation methods;	d	calculate and explain how inflation and deflation of inventory costs affect the financial statements and ratios of companies that use different inventory valuation methods;
e	explain LIFO reserve and LIFO liquidation and their effects on financial statements and ratios;	e	explain LIFO reserve and LIFO liquidation and their effects on financial statements and ratios;
f	convert a company's reported financial statements from LIFO to FIFO for purposes of comparison;	f	**demonstrate the conversion of a company's reported financial statements from LIFO to FIFO for purposes of comparison;**
g	describe the measurement of inventory at the lower of cost and net realisable value;	g	describe the measurement of inventory at the lower of cost and net realisable value;
h	describe implications of valuing inventory at net realisable value for financial statements and ratios;	h	describe implications of valuing inventory at net realisable value for financial statements and ratios;
i	describe the financial statement presentation of and disclosures relating to inventories;	i	describe the financial statement presentation of and disclosures relating to inventories;
j	explain issues that analysts should consider when examining a company's inventory disclosures and other sources of information;	j	explain issues that analysts should consider when examining a company's inventory disclosures and other sources of information;
k	calculate and compare ratios of companies, including companies that use different inventory methods;	k	calculate and compare ratios of companies, including companies that use different inventory methods;
l	analyze and compare the financial statements of companies, including companies that use different inventory methods.	l	analyze and compare the financial statements of companies, including companies that use different inventory methods.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 8		**STUDY SESSION 7**	
BOX 22			
READING 26. LONG-LIVED ASSETS		**READING 22. LONG-LIVED ASSETS**	
LOS		LOS	
a	distinguish between costs that are capitalised and costs that are expensed in the period in which they are incurred;	a	**identify and contrast costs that are capitalised and costs that are expensed in the period in which they are incurred;**
b	compare the financial reporting of the following types of intangible assets: purchased, internally developed, acquired in a business combination;	b	compare the financial reporting of the following types of intangible assets: purchased, internally developed, acquired in a business combination;
c	explain and evaluate how capitalising versus expensing costs in the period in which they are incurred affects financial statements and ratios;	c	explain and evaluate how capitalising versus expensing costs in the period in which they are incurred affects financial statements and ratios;
d	describe the different depreciation methods for property, plant, and equipment and calculate depreciation expense;	d	describe the different depreciation methods for property, plant, and equipment and calculate depreciation expense;
e	describe how the choice of depreciation method and assumptions concerning useful life and residual value affect depreciation expense, financial statements, and ratios;	e	describe how the choice of depreciation method and assumptions concerning useful life and residual value affect depreciation expense, financial statements, and ratios;
f	describe the different amortisation methods for intangible assets with finite lives and calculate amortisation expense;	f	describe the different amortisation methods for intangible assets with finite lives and calculate amortisation expense;
g	describe how the choice of amortisation method and assumptions concerning useful life and residual value affect amortisation expense, financial statements, and ratios;	g	describe how the choice of amortisation method and assumptions concerning useful life and residual value affect amortisation expense, financial statements, and ratios;
h	describe the revaluation model;	h	describe the revaluation model;
i	explain the impairment of property, plant, and equipment and intangible assets;	i	explain the impairment of property, plant, and equipment and intangible assets;
j	explain the derecognition of property, plant, and equipment and intangibleassets;	j	explain the derecognition of property, plant, and equipment and intangibleassets;

Change	Removed	Introduce

k	explain and evaluate how impairment, revaluation, and derecognition of property, plant, and equipment and intangible assets affect financial statements and ratios;	k	explain and evaluate how impairment, revaluation, and derecognition of property, plant, and equipment and intangible assets affect financial statements and ratios;
l	describe the financial statement presentation of and disclosures relating to property, plant, and equipment and intangible assets;	l	describe the financial statement presentation of and disclosures relating to property, plant, and equipment and intangible assets;
m	analyze and interpret financial statement disclosures regarding property, plant, and equipment and intangible assets;	m	analyze and interpret financial statement disclosures regarding property, plant, and equipment and intangible assets;
n	compare the financial reporting of investment property with that of property, plant, and equipment.	n	compare the financial reporting of investment property with that of property, plant, and equipment.

Change   Removed   Introduce

2020		2022	
STUDY SESSION 8		**STUDY SESSION 7**	
BOX 23			
READING 27. INCOME TAXES		**READING 23. INCOME TAXES**	
LOS		**LOS**	
a	describe the differences between accounting profit and taxable income and define key terms, including deferred tax assets, deferred tax liabilities, valuation allowance, taxes payable, and income tax expense;	a	describe the differences between accounting profit and taxable income and define key terms, including deferred tax assets, deferred tax liabilities, valuation allowance, taxes payable, and income tax expense;
b	explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis;	b	explain how deferred tax liabilities and assets are created and the factors that determine how a company's deferred tax liabilities and assets should be treated for the purposes of financial analysis;
c	calculate the tax base of a company's assets and liabilities;	c	calculate the tax base of a company's assets and liabilities;
d	calculate income tax expense, income taxes payable, deferred tax assets, and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate;	d	calculate income tax expense, income taxes payable, deferred tax assets, and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate;
e	evaluate the effect of tax rate changes on a company's financial statements and ratios;	e	evaluate the effect of tax rate changes on a company's financial statements and ratios;
f	distinguish between temporary and permanent differences in pre-tax accounting income and taxable income;	f	**identify and contrast temporary versus permanent differences in pre-tax accounting income and taxable income;**
g	describe the valuation allowance for deferred tax assets—when it is required and what effect it has on financial statements;	g	describe the valuation allowance for deferred tax assets—when it is required and what effect it has on financial statements;
h	explain recognition and measurement of current and deferred tax items;	h	explain recognition and measurement of current and deferred tax items;
i	analyze disclosures relating to deferred tax items and the effective tax rate rec- onciliation and explain how information included in these disclosures affects a company's financial statements and	i	analyze disclosures relating to deferred tax items and the effective tax rate reconciliation and explain how information included in these disclosures affects a company's financial statements and financial

Change	Removed	Introduce

	financial ratios;			ratios;
j	identify the key provisions of and differences between income tax accounting under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (GAAP).		j	identify the key provisions of and differences between income tax accounting under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (GAAP).

2020		2022	
STUDY SESSION 8		**STUDY SESSION 7**	
BOX 24			
READING 28. NON-CURRENT (LONG-TERM) LIABILITIES		**READING 24. NON-CURRENT (LONG-TERM) LIABILITIES**	
LOS		LOS	
a	determine the initial recognition, initial measurement and subsequent measurement of bonds;	a	determine the initial recognition, initial measurement and subsequent measurement of bonds;
b	describe the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments;	b	describe the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments;
c	explain the derecognition of debt;	c	explain the derecognition of debt;
d	describe the role of debt covenants in protecting creditors;	d	describe the role of debt covenants in protecting creditors;
e	describe the financial statement presentation of and disclosures relating to debt;	e	describe the financial statement presentation of and disclosures relating to debt;
f	explain motivations for leasing assets instead of purchasing them;	f	explain motivations for leasing assets instead of purchasing them;
g	explain the financial reporting of leases from a lessee's perspective;	g	explain the financial reporting of leases from a lessee's perspective;
h	explain the financial reporting of leases from a lessor's perspective;	h	explain the financial reporting of leases from a lessor's perspective;
i	compare the presentation and disclosure of defined contribution and definedbenefit pension plans;	i	compare the presentation and disclosure of defined contribution and definedbenefit pension plans;
j	calculate and interpret leverage and coverage ratios.	j	calculate and interpret leverage and coverage ratios.

Change	Removed	Introduce

LOS			LOS		
a	distinguish between financial reporting quality and quality of reported results (including quality of earnings, cash flow, and balance sheet items);		a	compare and contrast financial reporting quality with the quality of reported results (including quality of earnings, cash flow, and balance sheet items);	
b	describe a spectrum for assessing financial reporting quality;		b	describe a spectrum for assessing financial reporting quality;	
c	distinguish between conservative and aggressive accounting;		c	explain the difference between conservative and aggressive accounting;	
d	describe motivations that might cause management to issue financial reports that are not high quality;		d	describe motivations that might cause management to issue financial reports that are not high quality;	
e	describe conditions that are conducive to issuing low-quality, or even fraudulent, financial reports;		e	describe conditions that are conducive to issuing low-quality, or even fraudulent, financial reports;	
f	describe mechanisms that discipline financial reporting quality and the potential limitations of those mechanisms;		f	describe mechanisms that discipline financial reporting quality and the potential limitations of those mechanisms;	
g	describe presentation choices, including non-GAAP measures, that could beused to influence an analyst's opinion;		g	describe presentation choices, including non-GAAP measures, that could beused to influence an analyst's opinion;	
h	describe accounting methods (choices and estimates) that could be used to manage earnings, cash flow, and balance sheet items;		h	describe accounting methods (choices and estimates) that could be used to manage earnings, cash flow, and balance sheet items;	
i	describe accounting warning signs and methods for detecting manipulation of information in financial reports.		i	describe accounting warning signs and methods for detecting manipulation of information in financial reports.	

Change	Removed	Introduce

2020		2022	
STUDY SESSION 9		**STUDY SESSION 8**	
BOX 26			
READING 30. APPLICATIONS OF FINANCIAL STATEMENT ANALYSIS		**READING 26. APPLICATIONS OF FINANCIAL STATEMENT ANALYSIS**	
LOS		**LOS**	
a	evaluate a company's past financial performance and explain how a company's strategy is reflected in past financial performance;	a	evaluate a company's past financial performance and explain how a company's strategy is reflected in past financial performance;
b	forecast a company's future net income and cash flow;	b	**demonstrate how to forecast a company's future net income and cash flow;**
c	describe the role of financial statement analysis in assessing the credit quality of a potential debt investment;	c	describe the role of financial statement analysis in assessing the credit quality of a potential debt investment;
d	describe the use of financial statement analysis in screening for potential equity investments;	d	describe the use of financial statement analysis in screening for potential equity investments;
e	explain appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.	e	explain appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.

Change

Removed

Introduce

Corporate Issuers

2020		2022	
STUDY SESSION 10		**STUDY SESSION 9**	
BOX 27			
READING 31. INTRODUCTION TO CORPORATE GOVERNANCE AND OTHER ESG CONSIDERATIONS		**READING 27. INTRODUCTION TO CORPORATE GOVERNANCE AND OTHER ESG CONSIDERATIONS**	
LOS		LOS	
a	describe corporate governance;	a	describe corporate governance;
b	describe a company's stakeholder groups and compare interests of stakeholder groups;	b	describe a company's stakeholder groups, and compare interests of stakeholder groups;
c	describe principal–agent and other relationships in corporate governance and the conflicts that may arise in these relationships;	c	describe principal–agent and other relationships in corporate governance and the conflicts that may arise in these relationships;
d	describe stakeholder management;	d	describe stakeholder management;
e	describe mechanisms to manage stakeholder relationships and mitigate associated risks;	e	describe mechanisms to manage stakeholder relationships and mitigate associated risks;
f	describe functions and responsibilities of a company's board of directors and its committees;	f	describe functions and responsibilities of a company's board of directors and its committees;
g	describe market and non-market factors that can affect stakeholder relationships and corporate governance;	g	describe market and non-market factors that can affect stakeholder relation-ships and corporate governance;
h	identify potential risks of poor corporate governance and stakeholder management and identify benefits from effective corporate governance and stakeholder management;	h	identify potential risks of poor corporate governance and stakeholder management, and identify benefits from effective corporate governance and stakeholder management;
i	describe factors relevant to the analysis of corporate governance and stake- holder management;	i	describe factors relevant to the analysis of corporate governance and stake- holder management;
j	describe environmental and social considerations in investment analysis;	j	describe environmental and social considerations in investment analysis;
k	describe how environmental, social, and governance factors may be used in investment analysis.	k	describe how environmental, social, and governance factors may be used in investment analysis.

Change   Removed   Introduce

2020			2022	
STUDY SESSION 10			**STUDY SESSION 9**	
BOX 28				
READING 32. CAPITAL BUDGETING			**READING 28. USES OF CAPITAL**	
		LOS		
	Removed	a	describe the capital allocation process and basic principles of capital allocation;	
		b	demonstrate the use of net present value (NPV) and internal rate of return (IRR) in allocating capital and describe the advantages and disadvantages of each method;	
		c	describe expected relations among a company's investments, company value, and share price;(Los g R32 Capital Budgeting in 2020)	
		d	describe types of real options relevant to capital investment;	
		e	describe common capital allocation pitfalls.	

Change	Removed	Introduce

2020		2022	
		STUDY SESSION 9	
		BOX 29	
		READING 29. SOURCES OF CAPITAL	
		LOS	
		a	describe types of financing methods and considerations in their selection;
		b	describe primary and secondary sources of liquidity and factors that influence a company's liquidity position;**(Los a R35 WCM in 2020)**
		c	compare a company's liquidity position with that of peer companies;**(Los b R35 WCM in 2020)**
		d	evaluate choices of short-term funding.**(Los g R35 WCM in 2020)**

Change **Removed** **Introduce**

	2020			2022	
	STUDY SESSION 10			**STUDY SESSION 10**	
			BOX 30		
	READING 33. COST OF CAPITAL			**READING 30. COST OF CAPITAL-FOUNDATIONAL TOPICS**	
LOS			**LOS**		
a	calculate and interpret the weighted average cost of capital (WACC) of a company;		a	calculate and interpret the weighted average cost of capital (WACC) of a company;	
b	describe how taxes affect the cost of capital from different capital sources;		b	describe how taxes affect the cost of capital from different capital sources;	
c	describe the use of target capital structure in estimating WACC and how target capital structure weights may be determined;		c	calculate and interpret the cost of debt capital using the yield-to-maturityapproach and the debt-rating approach;**(Los f in 2020)**	
d	explain how the marginal cost of capital and the investment opportunity schedule are used to determine the optimal capital budget;		d	calculate and interpret the cost of noncallable, nonconvertible preferred stock;**(Los g in 2020)**	
e	explain the marginal cost of capital's role in determining the net present value of a project;		e	**calculate and interpret the cost of equity capital using the capital asset pricing model approach and the bond yield plus risk premium approach;(Los h in 2020)**	
f	calculate and interpret the cost of debt capital using the yield-to-maturity approach and the debt-rating approach;		f	**explain and demonstrate beta estimation for public companies, thinly traded public companies, and nonpublic companies;**	
g	calculate and interpret the cost of noncallable, nonconvertible preferred stock;		g	explain and demonstrate the correct treatment of flotation costs.**(Los l in 2020)**	
h	calculate and interpret the cost of equity capital using the capital asset pricing model approach, the dividend discount model approach, and the bond-yield-plus risk-premium approach;				
i	calculate and interpret the beta and cost of capital for a project;				
j	describe uses of country risk premiums in estimating the cost of equity;				
k	describe the marginal cost of capital schedule, explain why it may be upward-sloping with respect to additional capital, and calculate and interpret its break- points;				
l	explain and demonstrate the correct treatment of flotation costs.				

Change	**Removed**	**Introduce**

2020			2022	
			STUDY SESSION 10	
			BOX 31	
			READING 31. CAPITAL STRUCTURE	
		LOS		
		a	describe how a company's capital structure may change over its life cycle;	
		b	explain the Modigliani–Miller propositions regarding capital structure;	
		c	describe the use of target capital structure in estimating WACC, and calculate and interpret target capital structure weights;**(cost of capital Los c in 2020)**	
		d	explain factors affecting capital structure decisions;	
		e	describe competing stakeholder interests in capital structure decisions.	

Change	Removed	Introduce

2020		2022	
STUDY SESSION 11		**STUDY SESSION 10**	
BOX 32			
READING 34. MEASURES OF LEVERAGE		**READING 32. MEASURES OF LEVERAGE**	
LOS		**LOS**	
a	define and explain leverage, business risk, sales risk, operating risk, and financial risk and classify a risk;	a	define and explain leverage, business risk, sales risk, operating risk, and financial risk and classify a risk;
b	calculate and interpret the degree of operating leverage, the degree of financial leverage, and the degree of total leverage;	b	calculate and interpret the degree of operating leverage, the degree of financial leverage, and the degree of total leverage;
c	analyze the effect of financial leverage on a company's net income and return on equity;	c	analyze the effect of financial leverage on a company's net income and return on equity;
d	calculate the breakeven quantity of sales and determine the company's net income at various sales levels;	d	calculate the breakeven quantity of sales and determine the company's net income at various sales levels;
e	calculate and interpret the operating breakeven quantity of sales.	e	calculate and interpret the operating breakeven quantity of sales.

Change   Removed   Introduce

2020	2022
STUDY SESSION 11	
READING 35. WORKING CAPITAL MANAGEMENT	
Removed	

Change

Removed

Introduce

Equity Investments

2020		**2022**	
STUDY SESSION 12		**STUDY SESSION 11**	
BOX 33			
READING 36. MARKET ORGANIZATION AND STRUCTURE		**READING 33. MARKET ORGANIZATION AND STRUCTURE**	
LOS		**LOS**	
a	explain the main functions of the financial system;	a	explain the main functions of the financial system;
b	describe classifications of assets and markets;	b	describe classifications of assets and markets;
c	describe the major types of securities, currencies, contracts, commodities, and real assets that trade in organized markets, including their distinguishing characteristics and major subtypes;	c	describe the major types of securities, currencies, contracts, commodities, and real assets that trade in organized markets, including their distinguishing characteristics and major subtypes;
d	describe types of financial intermediaries and services that they provide;	d	describe types of financial intermediaries and services that they provide;
e	compare positions an investor can take in an asset;	e	compare positions an investor can take in an asset;
f	calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call;	f	calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call;
g	compare execution, validity, and clearing instructions;	g	compare execution, validity, and clearing instructions;
h	compare market orders with limit orders;	h	compare market orders with limit orders;
i	define primary and secondary markets and explain how secondary marketssupport primary markets;	i	define primary and secondary markets and explain how secondary marketssupport primary markets;
j	describe how securities, contracts, and currencies are traded in quote-driven, order driven, and brokered markets;	j	describe how securities, contracts, and currencies are traded in quote-driven,order-driven, and brokered markets;
k	describe characteristics of a well-functioning financial system;	k	describe characteristics of a well-functioning financial system;
l	describe objectives of market regulation.	l	describe objectives of market regulation.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 12		**STUDY SESSION 11**	
BOX 34			
READING 37. SECURITY MARKET INDEXES		**READING 34. SECURITY MARKET INDEXES**	
LOS		**LOS**	
a	describe a security market index;	a	describe a security market index;
b	calculate and interpret the value, price return, and total return of an index;	b	calculate and interpret the value, price return, and total return of an index;
c	describe the choices and issues in index construction and management;	c	describe the choices and issues in index construction and management;
d	compare the different weighting methods used in index construction;	d	compare the different weighting methods used in index construction;
e	calculate and analyze the value and return of an index given its weightingmethod;	e	calculate and analyze the value and return of an index given its weightingmethod;
f	describe rebalancing and reconstitution of an index;	f	describe rebalancing and reconstitution of an index;
g	describe uses of security market indexes;	g	describe uses of security market indexes;
h	describe types of equity indexes;	h	describe types of equity indexes;
i	describe types of fixed-income indexes;	i	describe types of fixed-income indexes;
j	describe indexes representing alternative investments;	j	describe indexes representing alternative investments;
k	compare types of security market indexes.	k	compare types of security market indexes.

Change	Removed	Introduce

2020		**2022**	
STUDY SESSION 12		**STUDY SESSION 11**	
BOX 35			
READING 38. MARKET EFFICIENCY		**READING 35. MARKET EFFICIENCY**	
LOS		**LOS**	
a	describe market efficiency and related concepts, including their importance to investment practitioners;	a	describe market efficiency and related concepts, including their importance to investment practitioners;
b	distinguish between market value and intrinsic value;	b	contrast market value and intrinsic value;
c	explain factors that affect a market's efficiency;	c	explain factors that affect a market's efficiency;
d	contrast weak-form, semi-strong-form, and strong-form market efficiency;	d	contrast weak-form, semi-strong-form, and strong-form market efficiency;
e	explain the implications of each form of market efficiency for fundamental analysis, technical analysis, and the choice between active and passive portfolio management;	e	explain the implications of each form of market efficiency for fundamental analysis, technical analysis, and the choice between active and passive portfolio management;
f	describe market anomalies;	f	describe market anomalies;
g	describebehavioral finance and its potential relevance to understanding market anomalies.	g	describebehavioral finance and its potential relevance to understanding market anomalies.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 13		**STUDY SESSION 12**	
BOX 36			
READING 39. OVERVIEW OF EQUITY SECURITIES		**READING 36. OVERVIEW OF EQUITY SECURITIES**	
LOS		**LOS**	
a	describe characteristics of types of equity securities;	a	describe characteristics of types of equity securities;
b	describe differences in voting rights and other ownership characteristics among different equity classes;	b	describe differences in voting rights and other ownership characteristics among different equity classes;
c	distinguish between public and private equity securities;	c	compare and contrast public and private equity securities;
d	describe methods for investing in non-domestic equity securities;	d	describe methods for investing in non-domestic equity securities;
e	compare the risk and return characteristics of different types of equity securities;	e	compare the risk and return characteristics of different types of equity securities;
f	explain the role of equity securities in the financing of a company's assets;	f	explain the role of equity securities in the financing of a company's assets;
g	distinguish between the market value and book value of equity securities;	g	contrast the market value and book value of equity securities;
h	compare a company's cost of equity, its (accounting) return on equity, andinvestors' required rates of return.	h	compare a company's cost of equity, its (accounting) return on equity, andinvestors' required rates of return.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 13		**STUDY SESSION 12**	
BOX 37			
READING 40. INTRODUCTION TO INDUSTRY AND COMPANY ANALYSIS		**READING 37. INTRODUCTION TO INDUSTRY AND COMPANY ANALYSIS**	
LOS		**LOS**	
a	explain uses of industry analysis and the relation of industry analysis to company analysis;	a	explain uses of industry analysis and the relation of industry analysis to company analysis;
b	compare methods by which companies can be grouped, current industry classification systems, and classify a company, given a description of its activities and the classification system;	b	**compare methods by which companies can be grouped;**
c	explain the factors that affect the sensitivity of a company to the business cycle and the uses and limitations of industry and company descriptors such as "growth," "defensive," and "cyclical";	c	explain the factors that affect the sensitivity of a company to the business cycle and the uses and limitations of industry and company descriptors such as "growth," "defensive," and "cyclical";
d	explain how a company's industry classification can be used to identify a potential "peer group" for equity valuation;	d	**describe current industry classification systems, and identify how a company should be classified, given a description of its activities and the classification system;(Los b in 2020)**
e	describe the elements that need to be covered in a thorough industry analysis;	e	explain how a company's industry classification can be used to identify a potential "peer group" for equity valuation;**(Los d in 2020)**
f	describe the principles of strategic analysis of an industry;	f	describe the elements that need to be covered in a thorough industry analysis;**(Los e in 2020)**
g	explain the effects of barriers to entry, industry concentration, industry capacity, and market share stability on pricing power and price competition;	g	describe the principles of strategic analysis of an industry;**(Los f in 2020)**
h	describe industry life cycle models, classify an industry as to life cycle stage, and describe limitations of the life-cycle concept in forecasting industryperformance;	h	explain the effects of barriers to entry, industry concentration, industry capacity, and market share stability on pricing power and price competition;**(Los g in 2020)**
i	compare characteristics of representative industries from the various	i	describe industry life-cycle models, classify an industry as to life-cycle

Change	Removed	Introduce

	economic sectors;		stage,and describe limitations of the life-cycle concept in forecasting industryperformance;**(Los h in 2020)**
j	describe macroeconomic, technological, demographic, governmental, and social influences on industry growth, profitability, and risk;	j	describe macroeconomic, technological, demographic, governmental, social, and environmental influences on industry growth, profitability, and risk;
k	describe the elements that should be covered in a thorough company analysis.	k	compare characteristics of representative industries from the various economic sectors;**(Los i in 2020)**
		l	describe the elements that should be covered in a thorough company analysis.**(Los k in 2020)**

Change

Removed

Introduce

2020	2022
STUDY SESSION 13	**STUDY SESSION 12**
BOX 38	
READING 41. EQUITY VALUATION: CONCEPTS AND BASIC TOOLS	**READING 38. EQUITY VALUATION: CONCEPTS AND BASIC TOOLS**

LOS		LOS	
a	evaluate whether a security, given its current market price and a value estimate, is overvalued, fairly valued, or undervalued by the market;	a	evaluate whether a security, given its current market price and a value estimate, is overvalued, fairly valued, or undervalued by the market;
b	describe major categories of equity valuation models;	b	describe major categories of equity valuation models;
c	describe regular cash dividends, extra dividends, stock dividends, stock splits, reverse stock splits, and share repurchases;	c	describe regular cash dividends, extra dividends, stock dividends, stock splits, reverse stock splits, and share repurchases;
d	describe dividend payment chronology;	d	describe dividend payment chronology;
e	explain the rationale for using present value models to value equity and describe the dividend discount and free-cash-flow-to-equity models;	e	explain the rationale for using present value models to value equity and describe the dividend discount and free-cash-flow-to-equity models;
f	calculate the intrinsic value of a non-callable, non-convertible preferred stock;	f	calculate the intrinsic value of a non-callable, non-convertible preferred stock;
g	calculate and interpret the intrinsic value of an equity security based on the Gordon (constant) growth dividend discount model or a two-stage dividenddiscount model, as appropriate;	g	calculate and interpret the intrinsic value of an equity security based on the Gordon (constant) growth dividend discount model or a two-stage dividenddiscount model, as appropriate;
h	identify characteristics of companies for which the constant growth or a multi- stage dividend discount model is appropriate;	h	identify characteristics of companies for which the constant growth or a multi- stage dividend discount model is appropriate;
i	explain the rationale for using price multiples to value equity, how the price to earnings multiple relates to fundamentals, and the use of multiples based on comparables;	i	explain the rationale for using price multiples to value equity, how the price to earnings multiple relates to fundamentals, and the use of multiples based on comparables;
j	calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value;	j	calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value;

Change	Removed	Introduce

k	describe enterprise value multiples and their use in estimating equity value;	k	describe enterprise value multiples and their use in estimating equity value;
l	describe asset-based valuation models and their use in estimating equity value;	l	describe asset-based valuation models and their use in estimating equity value;
m	explain advantages and disadvantages of each category of valuation model.	m	explain advantages and disadvantages of each category of valuation model.

Change

Removed

Introduce

Fixed Income

2020		2022	
STUDY SESSION 14		**STUDY SESSION 13**	
BOX 39			
READING 42. FIXED-INCOME SECURITIES: DEFINING ELEMENTS		**READING 39. FIXED-INCOME SECURITIES: DEFINING ELEMENTS**	
LOS		**LOS**	
a	describe basic features of a fixed-income security;	a	describe basic features of a fixed-income security;
b	describe content of a bond indenture;	b	describe content of a bond indenture;
c	compare affirmative and negative covenants and identify examples of each;	c	compare affirmative and negative covenants and identify examples of each;
d	describe how legal, regulatory, and tax considerations affect the issuance andtrading of fixed-income securities;	d	describe how legal, regulatory, and tax considerations affect the issuance andtrading of fixed-income securities;
e	describe how cash flows of fixed-income securities are structured;	e	describe how cash flows of fixed-income securities are structured;
f	describe contingency provisions affecting the timing and/or nature of cash flows of fixed-income securities and identify whether such provisions benefitthe borrower or the lender.	f	describe contingency provisions affecting the timing and/or nature of cash flows of fixed-income securities and whether such provisions benefit the borrower orthe lender.

Change

Removed

Introduce

2020		2022	
STUDY SESSION 14		**STUDY SESSION 13**	
BOX 40			
READING 43. FIXED-INCOME MARKETS: ISSUANCE, TRADING,AND FUNDING		**READING 40. FIXED-INCOME MARKETS: ISSUANCE, TRADING,AND FUNDING**	
LOS		**LOS**	
a	describe classifications of global fixed-income markets;	a	describe classifications of global fixed-income markets;
b	describe the use of interbank offered rates as reference rates in floating-ratedebt;	b	describe the use of interbank offered rates as reference rates in floating-ratedebt;
c	describe mechanisms available for issuing bonds in primary markets;	c	describe mechanisms available for issuing bonds in primary markets;
d	describe secondary markets for bonds;	d	describe secondary markets for bonds;
e	describe securities issued by sovereign governments;	e	describe securities issued by sovereign governments;
f	describe securities issued by non-sovereign governments, quasi-governmententities, and supranational agencies;	f	describe securities issued by non-sovereign governments, quasi-governmententities, and supranational agencies;
g	describe types of debt issued by corporations;	g	describe types of debt issued by corporations;
h	describe structured financial instruments;	h	describe structured financial instruments;
i	describe short-term funding alternatives available to banks;	i	describe short-term funding alternatives available to banks;
j	describe repurchase agreements (repos) and the risks associated with them.	j	describe repurchase agreements (repos) and the risks associated with them.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 14		**STUDY SESSION 13**	
BOX 41			
READING 44. INTRODUCTION TO FIXED-INCOME VALUATION		**READING 41. INTRODUCTION TO FIXED-INCOME VALUATION**	
LOS		**LOS**	
a	calculate a bond's price given a market discount rate;	a	calculate a bond's price given a market discount rate;
b	identify the relationships among a bond's price, coupon rate, maturity, and market discount rate (yield-to-maturity);	b	identify the relationships among a bond's price, coupon rate, maturity, and market discount rate (yield-to-maturity);
c	define spot rates and calculate the price of a bond using spot rates;	c	define spot rates and calculate the price of a bond using spot rates;
d	describe and calculate the flat price, accrued interest, and the full price of a bond;	d	describe and calculate the flat price, accrued interest, and the full price of a bond;
e	describe matrix pricing;	e	describe matrix pricing;
f	calculate annual yield on a bond for varying compounding periods in a year;	f	calculate annual yield on a bond for varying compounding periods in a year;
g	calculate and interpret yield measures for fixed-rate bonds and floating-ratenotes;	g	calculate and interpret yield measures for fixed-rate bonds and floating-ratenotes;
h	calculate and interpret yield measures for money market instruments;	h	calculate and interpret yield measures for money market instruments;
i	define and compare the spot curve, yield curve on coupon bonds, par curve,and forward curve;	i	define and compare the spot curve, yield curve on coupon bonds, par curve,and forward curve;
j	define forward rates and calculate spot rates from forward rates, forward rates from spot rates, and the price of a bond using forward rates;	j	define forward rates and calculate spot rates from forward rates, forward rates from spot rates, and the price of a bond using forward rates;
k	compare, calculate, and interpret yield spread measures.	k	compare, calculate, and interpret yield spread measures.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 14		**STUDY SESSION 13**	
BOX 42			
READING 45. INTRODUCTION TO ASSET-BACKED SECURITIES		**READING 42. INTRODUCTION TO ASSET-BACKED SECURITIES**	
LOS		**LOS**	
a	explain benefits of securitization for economies and financial markets;	a	explain benefits of securitization for economies and financial markets;
b	describe securitization, including the parties involved in the process and the roles they play;	b	describe securitization, including the parties involved in the process and the roles they play;
c	describe typical structures of securitizations, including credit tranching and time tranching;	c	describe typical structures of securitizations, including credit tranching and time tranching;
d	describe types and characteristics of residential mortgage loans that are typically securitized;	d	describe types and characteristics of residential mortgage loans that are typically securitized;
e	describe types and characteristics of residential mortgage-backed securities,including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type;	e	describe types and characteristics of residential mortgage-backed securities,including mortgage pass-through securities and collateralized mortgage obligations, and explain the cash flows and risks for each type;
f	define prepayment risk and describe the prepayment risk of mortgage-backedsecurities;	f	define prepayment risk and describe the prepayment risk of mortgage-backedsecurities;
g	describe characteristics and risks of commercial mortgage-backed securities;	g	describe characteristics and risks of commercial mortgage-backed securities;
h	describe types and characteristics of non-mortgage asset-backed securities,including the cash flows and risks of each type;	h	describe types and characteristics of non-mortgage asset-backed securities,including the cash flows and risks of each type;
i	describe collateralized debt obligations, including their cash flows and risks.	i	describe collateralized debt obligations, including their cash flows and risks;
		j	**describe characteristics and risks of covered bonds and how they differ from other asset-backed securities.**(it was done in defining elements chapter)

Change	Removed	Introduce

2020		2022	
STUDY SESSION 15		**STUDY SESSION 14**	
BOX 43			
READING 46. UNDERSTANDING FIXED-INCOME RISK AND RETURN		**READING 43. UNDERSTANDING FIXED-INCOME RISK ANDRETURN**	
LOS		**LOS**	
a	calculate and interpret the sources of return from investing in a fixed-rate bond;	a	calculate and interpret the sources of return from investing in a fixed-rate bond;
b	define, calculate, and interpret Macaulay, modified, and effective durations;	b	define, calculate, and interpret Macaulay, modified, and effective durations;
c	explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options;	c	explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options;
d	define key rate duration and describe the use of key rate durations in measuring the sensitivity of bonds to changes in the shape of the benchmark yield curve;	d	define key rate duration and describe the use of key rate durations in measuring the sensitivity of bonds to changes in the shape of the benchmark yield curve;
e	explain how a bond's maturity, coupon, and yield level affect its interest rate risk;	e	explain how a bond's maturity, coupon, and yield level affect its interest rate risk;
f	calculate the duration of a portfolio and explain the limitations of portfolio duration;	f	calculate the duration of a portfolio and explain the limitations of portfolio duration;
g	calculate and interpret the money duration of a bond and price value of a basis point (PVBP);	g	calculate and interpret the money duration of a bond and price value of a basis point (PVBP);
h	calculate and interpret approximate convexity and distinguish between approximate and effective convexity;	h	calculate and interpret approximate convexity and compare approximate and effective convexity;
i	estimate the percentage price change of a bond for a specified change in yield, given the bond's approximate duration and convexity;	i	calculate the percentage price change of a bond for a specified change in yield, given the bond's approximate duration and convexity;
j	describe how the term structure of yield volatility affects the interest rate risk of a bond;	j	describe how the term structure of yield volatility affects the interest rate risk of a bond;

Change	Removed	Introduce

k	describe the relationships among a bond's holding period return, its duration, and the investment horizon;	k	describe the relationships among a bond's holding period return, its duration, and the investment horizon;
l	explain how changes in credit spread and liquidity affect yield-to-maturity of abond and how duration and convexity can be used to estimate the price effect of the changes.	l	explain how changes in credit spread and liquidity affect yield-to-maturity of abond and how duration and convexity can be used to estimate the price effect of the changes.
		m	**describe the difference between empirical duration and analytical duration.**

2020		2022	
STUDY SESSION 15		STUDY SESSION 14	
BOX 44			
READING 47. FUNDAMENTALS OF CREDIT ANALYSIS		READING 44. FUNDAMENTALS OF CREDIT ANALYSIS	
LOS		LOS	
a	describe credit risk and credit-related risks affecting corporate bonds;	a	describe credit risk and credit-related risks affecting corporate bonds;
b	describe default probability and loss severity as components of credit risk;	b	describe default probability and loss severity as components of credit risk;
c	describe seniority rankings of corporate debt and explain the potential violation of the priority of claims in a bankruptcy proceeding;	c	describe seniority rankings of corporate debt and explain the potential violation of the priority of claims in a bankruptcy proceeding;
d	distinguish between corporate issuer credit ratings and issue credit ratings and describe the rating agency practice of "notching";	d	compare and contrast corporate issuer credit ratings and issue credit ratings and describe the rating agency practice of "notching";
e	explain risks in relying on ratings from credit rating agencies;	e	explain risks in relying on ratings from credit rating agencies;
f	explain the four Cs (Capacity, Collateral, Covenants, and Character) of traditional credit analysis;	f	explain the four Cs (Capacity, Collateral, Covenants, and Character) of traditional credit analysis;
g	calculate and interpret financial ratios used in credit analysis;	g	calculate and interpret financial ratios used in credit analysis;
h	evaluate the credit quality of a corporate bond issuer and a bond of that issuer, given key financial ratios of the issuer and the industry;	h	evaluate the credit quality of a corporate bond issuer and a bond of that issuer, given key financial ratios of the issuer and the industry;
i	describe factors that influence the level and volatility of yield spreads;	i	**describe macroeconomic, market, and issuer-specific factors that influence the level and volatility of yield spreads;**
j	explain special considerations when evaluating the credit of high-yield, sovereign, and non-sovereign government debt issuers and issues.	j	explain special considerations when evaluating the credit of high-yield, sovereign, and non-sovereign government debt issuers and issues.

| Change | Removed | Introduce |

Derivatives

2020		2022	
STUDY SESSION 16		**STUDY SESSION 15**	
BOX 45			
READING 48. DERIVATIVE MARKETS AND INSTRUMENTS		**READING 45. DERIVATIVE MARKETS AND INSTRUMENTS**	
LOS		LOS	
a	define a derivative and distinguish between exchange-traded and over-the-counter derivatives;	a	define a derivative and distinguish between exchange-traded and over-the- counter derivatives;
b	contrast forward commitments with contingent claims;	b	contrast forward commitments with contingent claims;
c	define forward contracts, futures contracts, options (calls and puts), swaps, andcredit derivatives and compare their basic characteristics;	c	define forward contracts, futures contracts, options (calls and puts), swaps, andcredit derivatives and compare their basic characteristics;
d	determine the value at expiration and profit from a long or a short position in a call or put option;	d	determine the value at expiration and profit from a long or a short position in a call or put option;
e	describe purposes of, and controversies related to, derivative markets;	e	describe purposes of, and controversies related to, derivative markets;
f	explain arbitrage and the role it plays in determining prices and promoting market efficiency.	f	explain arbitrage and the role it plays in determining prices and promoting market efficiency.

Change	Removed	Introduce

BOX 46			
READING 49. BASICS OF DERIVATIVE PRICING AND VALUATION		**READING 46. BASICS OF DERIVATIVE PRICING AND VALUATION**	
LOS		**LOS**	
a	explain how the concepts of arbitrage, replication, and risk neutrality are used in pricing derivatives;	a	explain how the concepts of arbitrage, replication, and risk neutrality are used in pricing derivatives;
b	distinguish between value and price of forward and futures contracts;	b	explain the difference between value and price of forward and futures contracts;
c	calculate a forward price of an asset with zero, positive, or negative net cost of carry;	c	calculate a forward price of an asset with zero, positive, or negative net cost of carry;
d	explain how the value and price of a forward contract are determined at expiration, during the life of the contract, and at initiation;	d	explain how the value and price of a forward contract are determined at expiration, during the life of the contract, and at initiation;
e	describe monetary and nonmonetary benefits and costs associated with holding the underlying asset and explain how they affect the value and price of a forward contract;	e	describe monetary and nonmonetary benefits and costs associated with holding the underlying asset and explain how they affect the value and price of a forward contract;
f	define a forward rate agreement and describe its uses;	f	define a forward rate agreement and describe its uses;
g	explain why forward and futures prices differ;	g	explain why forward and futures prices differ;
h	explain how swap contracts are similar to but different from a series of forwardcontracts;	h	explain how swap contracts are similar to but different from a series of forwardcontracts;
i	distinguish between the value and price of swaps;	i	explain the difference between value and price of swaps;
j	explain the exercise value, time value, and moneyness of an option;	j	explain the exercise value, time value, and moneyness of an option;
k	identify the factors that determine the value of an option and explain how eachfactor affects the value of an option;	k	identify the factors that determine the value of an option and explain how eachfactor affects the value of an option;
l	explain put–call parity for European options;	l	explain put–call parity for European options;
m	explain put–call–forward parity for European options;	m	explain put–call–forward parity for European options;
n	explain how the value of an option is determined using a one-period	n	explain how the value of an option is determined using a one-period

Change	Removed	Introduce

	binomialmodel;	binomialmodel;
o	explain under which circumstances the values of European and American options differ.	o explain under which circumstances the values of European and American options differ.

Change

Removed

Introduce

Alternative Investments

2020		2022		
STUDY SESSION 17		**STUDY SESSION 16**		
BOX 47				
READING 50. INTRODUCTION TO ALTERNATIVE INVESTMENTS		**READING 47. INTRODUCTION TO ALTERNATIVE INVESTMENTS**		
LOS		**LOS**		
a	compare alternative investments with traditional investments;	a	describe types and categories of alternative investments;	
b	describe hedge funds, private equity, real estate, commodities, infrastructure, and other alternative investments, including, as applicable, strategies, sub-categories, potential benefits and risks, fee structures, and due diligence;	b	describe characteristics of direct investment, co-investment, and fund investment methods for alternative investments;	
c	describe potential benefits of alternative investments in the context of portfolio management;	c	describe investment and compensation structures commonly used in alternative investments;	
d	describe, calculate, and interpret management and incentive fees and net-of-fees returns to hedge funds;	d	explain investment characteristics of hedge funds;	
e	describe issues in valuing and calculating returns on hedge funds, private equity, real estate, commodities, and infrastructure;	e	explain investment characteristics of private capital;	
f	describe risk management of alternative investments.	f	explain investment characteristics of natural resources;	
		g	explain investment characteristics of real estate;	
		h	explain investment characteristics of infrastructure;	
		i	describe issues in performance appraisal of alternative investments;	
		j	calculate and interpret returns of alternative investments on both before-free and after-fee bases.	

Change	Removed	Introduce

Portfolio Management

2020		2022	
STUDY SESSION 18		**STUDY SESSION 17**	
BOX 48			
READING 51. PORTFOLIO MANAGEMENT: AN OVERVIEW		**READING 48. PORTFOLIO MANAGEMENT: AN OVERVIEW**	
LOS		**LOS**	
a	describe the portfolio approach to investing;	a	describe the portfolio approach to investing;
b	describe the steps in the portfolio management process;	b	describe the steps in the portfolio management process;
c	describe types of investors and distinctive characteristics and needs of each;	c	describe types of investors and distinctive characteristics and needs of each;
d	describe defined contribution and defined benefit pension plans;	d	describe defined contribution and defined benefit pension plans;
e	describe aspects of the asset management industry;	e	describe aspects of the asset management industry;
f	describe mutual funds and compare them with other pooled investment products.	f	describe mutual funds and compare them with other pooled investment products.

Change

Removed

Introduce

2020		2022	
STUDY SESSION 18		**STUDY SESSION 17**	
BOX 49			
READING 52. PORTFOLIO RISK AND RETURN: PART I		**READING 49. PORTFOLIO RISK AND RETURN: PART I**	
LOS		**LOS**	
a	calculate and interpret major return measures and describe their appropriate uses;	a	calculate and interpret major return measures and describe their appropriate uses;
b	compare the money-weighted and time-weighted rates of return and evaluatethe performance of portfolios based on these measures	b	compare the money-weighted and time-weighted rates of return and evaluatethe performance of portfolios based on these measures;
c	describe characteristics of the major asset classes that investors consider in forming portfolios;	c	describe characteristics of the major asset classes that investors consider in forming portfolios;
d	calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data;	d	calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data;
e	explain risk aversion and its implications for portfolio selection;	e	explain risk aversion and its implications for portfolio selection;
f	calculate and interpret portfolio standard deviation;	f	calculate and interpret portfolio standard deviation;
g	describe the effect on a portfolio's risk of investing in assets that are less thanperfectly correlated;	g	describe the effect on a portfolio's risk of investing in assets that are less thanperfectly correlated;
h	describe and interpret the minimum-variance and efficient frontiers of riskyassets and the global minimum-variance portfolio;	h	describe and interpret the minimum-variance and efficient frontiers of riskyassets and the global minimum-variance portfolio;
i	explain the selection of an optimal portfolio, given an investor's utility (or risk aversion) and the capital allocation line.	i	explain the selection of an optimal portfolio, given an investor's utility (or risk aversion) and the capital allocation line.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 18		**STUDY SESSION 17**	
BOX 50			
READING 53. PORTFOLIO RISK AND RETURN: PART II		**READING 50. PORTFOLIO RISK AND RETURN: PART II**	
LOS		**LOS**	
a	describe the implications of combining a risk-free asset with a portfolio of riskyassets;	a	describe the implications of combining a risk-free asset with a portfolio of riskyassets;
b	explain the capital allocation line (CAL) and the capital market line (CML);	b	explain the capital allocation line (CAL) and the capital market line (CML);
c	explain systematic and nonsystematic risk, including why an investor should notexpect to receive additional return for bearing nonsystematic risk;	c	explain systematic and nonsystematic risk, including why an investor should notexpect to receive additional return for bearing nonsystematic risk;
d	explain return generating models (including the market model) and their uses;	d	explain return generating models (including the market model) and their uses;
e	calculate and interpret beta;	e	calculate and interpret beta;
f	explain the capital asset pricing model (CAPM), including its assumptions, andthe security market line (SML);	f	explain the capital asset pricing model (CAPM), including its assumptions, andthe security market line (SML);
g	calculate and interpret the expected return of an asset using the CAPM;	g	calculate and interpret the expected return of an asset using the CAPM;
h	describe and demonstrate applications of the CAPM and the SML;	h	describe and demonstrate applications of the CAPM and the SML;
i	calculate and interpret the Sharpe ratio, Treynor ratio, M^2, and Jensen's alpha.	i	calculate and interpret the Sharpe ratio, Treynor ratio, M^2, and Jensen's alpha.

Change	Removed	Introduce

2020		2022	
STUDY SESSION 19		**STUDY SESSION 18**	
BOX 51			
READING 54. BASICS OF PORTFOLIO PLANNING AND CONSTRUCTION		**READING 51. BASICS OF PORTFOLIO PLANNING AND CONSTRUCTION**	
LOS		**LOS**	
a	describe the reasons for a written investment policy statement (IPS);	a	describe the reasons for a written investment policy statement (IPS);
b	describe the major components of an IPS;	b	describe the major components of an IPS;
c	describe risk and return objectives and how they may be developed for a client;	c	describe risk and return objectives and how they may be developed for a client;
d	distinguish between the willingness and the ability (capacity) to take risk in analyzing an investor's financial risk tolerance;	d	explain the difference between the willingness and the ability (capacity) to take risk in analyzing an investor's financial risk tolerance;
e	describe the investment constraints of liquidity, time horizon, tax concerns, legal and regulatory factors, and unique circumstances and their implications for the choice of portfolio assets;	e	describe the investment constraints of liquidity, time horizon, tax concerns, legal and regulatory factors, and unique circumstances and their implications for the choice of portfolio assets;
f	explain the specification of asset classes in relation to asset allocation;	f	explain the specification of asset classes in relation to asset allocation;
g	describe the principles of portfolio construction and the role of asset allocation in relation to the IPS;	g	describe the principles of portfolio construction and the role of asset allocation in relation to the IPS;
h	describe how environmental, social, and governance (ESG) considerations may be integrated into portfolio planning and construction.	h	describe how environmental, social, and governance (ESG) considerations may be integrated into portfolio planning and construction.

Change	Removed	Introduce

	STUDY SESSION 18
	BOX 52
	READING 52. THE BEHAVIORAL BIASES OF INDIVIDUALS

		LOS	
		a	compare and contrast cognitive errors and emotional biases;
		b	discuss commonly recognized behavioral biases and their implications for financial decision making;
		c	describe how behavioral biases of investors can lead to market characteristics that may not be explained by traditional finance;

Change

Removed

Introduce

2020		2022	
STUDY SESSION 19		**STUDY SESSION 18**	
BOX 53			
READING 55. INTRODUCTION TO RISK MANAGEMENT		**READING 53. INTRODUCTION TO RISK MANAGEMENT**	
LOS		**LOS**	
a	define risk management;	a	define risk management;
b	describe features of a risk management framework;	b	describe features of a risk management framework;
c	define risk governance and describe elements of effective risk governance;	c	define risk governance and describe elements of effective risk governance;
d	explain how risk tolerance affects risk management;	d	explain how risk tolerance affects risk management;
e	describe risk budgeting and its role in risk governance;	e	describe risk budgeting and its role in risk governance;
f	identify financial and non-financial sources of risk and describe how they mayinteract;	f	identify financial and non-financial sources of risk and describe how they mayinteract;
g	describe methods for measuring and modifying risk exposures and factors to consider in choosing among the methods.	g	describe methods for measuring and modifying risk exposures and factors to consider in choosing among the methods.

Change   **Removed**   **Introduce**

LOS		LOS	
a	explain principles of technical analysis, its applications, and its underlying assumptions;	a	**explain principles and assumptions of technical analysis;**
b	describe the construction of different types of technical analysis charts and interpret them;	b	**describe potential links between technical analysis and behavioral finance;**
c	explain uses of trend, support, resistance lines, and change in polarity;	c	**compare principles of technical analysis and fundamental analysis;**
d	describe common chart patterns;	d	**describe and interpret different types of technical analysis charts;(Los b in 2020)**
e	describe common technical analysis indicators (price-based, momentum oscillators, sentiment, and flow of funds);	e	**explain uses of trend, support, and resistance lines;(Los c in 2020)**
f	explain how technical analysts use cycles;	f	explain common chart patterns;**(Los d in 2020)**
g	describe the key tenets of Elliott Wave Theory and the importance of Fibonacci numbers;	g	**explain common technical indicators;(Los e in 2020)**
h	describeintermarket analysis as it relates to technical analysis and asset allocation.	h	**describe principles of intermarket analysis;**
		i	**explain technical analysis applications to portfolio management.**

Change	Removed	Introduce

2020		2022	
STUDY SESSION 19		**STUDY SESSION 18**	
BOX 55			
READING 57. FINTECH IN INVESTMENT MANAGEMENT		**READING 55. FINTECH IN INVESTMENT MANAGEMENT**	
LOS		**LOS**	
a	describe "fintech;"	a	describe "fintech;"
b	describe Big Data, artificial intelligence, and machine learning;	b	describe Big Data, artificial intelligence, and machine learning;
c	describe fintech applications to investment management;	c	describe fintech applications to investment management;
d	describe financial applications of distributed ledger technology.	d	describe financial applications of distributed ledger technology.

Change   **Removed**   **Introduce**

Ethical and Professional Standards

	2020			2022	
	STUDY SESSION 1			**STUDY SESSION 19**	
		BOX 56			
	READING 1. ETHICS AND TRUST IN THE INVESTMENT PROFESSION			**READING 56. ETHICS AND TRUST IN THE INVESTMENT PROFESSION**	
LOS			**LOS**		
a	explain ethics;		a	explain ethics;	
b	describe the role of a code of ethics in defining a profession;		b	describe the role of a code of ethics in defining a profession;	
c	describe professions and how they establish trust;		c	describe professions and how they establish trust;	
d	describe the need for high ethical standards in investment management;		d	describe the need for high ethical standards in investment management;	
e	explain professionalism in investment management;		e	explain professionalism in investment management;	
f	identify challenges to ethical behavior;		f	identify challenges to ethical behavior;	
g	distinguish between ethical and legal standards;		g	compare and contrast ethical standards with legal standards;	
h	describe a framework for ethical decision making.		h	describe a framework for ethical decision making.	

Change	Removed	Introduce

2020			2022		
STUDY SESSION 1			**STUDY SESSION 19**		
BOX 57					
READING 2. CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT			**READING 57. CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT**		
LOS			**LOS**		
a	describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards;		a	describe the structure of the CFA Institute Professional Conduct Program and the process for the enforcement of the Code and Standards;	
b	state the six components of the Code of Ethics and the seven Standards of Professional Conduct;		b	identify the six components of the Code of Ethics and the seven Standards of Professional Conduct;	
c	explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.		c	explain the ethical responsibilities required by the Code and Standards, including the sub-sections of each Standard.	

Change	Removed	Introduce

2020		2022	
STUDY SESSION 1		**STUDY SESSION 19**	
BOX 58			
READING 3. GUIDANCE FOR STANDARDS I–VII		**READING 58. GUIDANCE FOR STANDARDS I–VII**	
LOS		**LOS**	
a	demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity;	a	demonstrate the application of the Code of Ethics and Standards of Professional Conduct to situations involving issues of professional integrity;
b	distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards;	b	identify conduct that conforms to the Code and Standards and conduct that violates the Code and Standards;
c	recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.	c	recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

Change

Removed

Introduce

2020		2022	
STUDY SESSION 1		**STUDY SESSION 19**	
BOX 59			
READING 4. INTRODUCTION TO THE GLOBAL INVESTMENT PERFORMANCE STANDARDS (GIPS)		**READING 59. INTRODUCTION TO THE GLOBAL INVESTMENT PERFORMANCE STANDARDS (GIPS)**	
LOS		**LOS**	
a	explain why the GIPS standards were created, what parties the GIPS standards apply to, and who is served by the standards;	a	explain why the GIPS standards were created, what parties the GIPS standards apply to, and who is benefitted by the standards;
b	explain the construction and purpose of composites in performance reporting;	b	**describe the key concepts of the GIPS standards for firms;**
c	explain the requirements for verification.	c	**explain the purpose of composites in performance reporting;(Los b in 2020)**
		d	**describe the fundamentals of compliance, including the recommendations of the GIPS Standards with respect to the definition of the firm and the firm's definition of discretion;**
		e	**describe the concept of independent verification.**

Change	Removed	Introduce

2020	2022
STUDY SESSION 1	STUDY SESSION 19
BOX 60	
READING 5. GLOBAL INVESTMENT PERFORMANCE STANDARDS (GIPS)	READING 60. ETHICS APPLICATION

		LOS	
	Removed	a	evaluate practices, policies, and conduct relative to the CFA Institute Code of Ethics and Standards of Professional Conduct;
		b	explain how the practices, policies, and conduct do or do not violate the CFA Institute Code of Ethics and Standards of Professional Conduct.

Change	Removed	Introduce