Course overview for exchange students
The ESMT Master's in Management Program

ESMT develops entrepreneurial leaders who
think globally, act responsibly, and respect the individual.

With a heritage rooted in European values and the potential of technology,
ESMT develops and imparts new knowledge to foster sustainable economic growth.

Berlin, September 2021
Based on Class 2021-23 curriculum, subject to change, course availability and timetable
compatibility. The course selection will be confirmed during the application process.

Contact: International-Office@esmt.org

Contents

STATISTICS I

The overall objective of this course is to introduce you to statistics and exploratory data analysis, where students will learn to reason with data and 'tell a story' through visualizing data. The goal is to teach students how to perform exploratory data analysis, build simple but powerful models that test their intuitive reasoning, develop managerial thinking and facilitate the communication of their recommendations.

JUDGEMENT AND DECISION MAKING

Successful management requires the ability to recognize a decision situation, interpret the relevant data, and make a choice. However, many of these situations- particularly those involving uncertainty and/or complex interactions -may be too difficult to grasp, and the stakes may be too high to learn by experience. Although many managers rely heavily on intuition to make these choices, human beings are subject to biases and psychological traps that can preclude sound decisions.

This course explores several managerial approaches to avoid these pitfalls and improve decision-making. To that end, we will cover basic concepts of decision and probability theories and explore the importance of modeling when evaluating data and making difficult choices. We will also discuss ways managers can set- up sound decision processes for their teams and organizations. Depending on the context, this may involve facilitating an atmosphere conducive to creativity, or assembling teams optimally to best take advantage of knowledge distributed across individuals.

BUSINESS ECONOMICS

There are two ways in which microeconomics is useful to business students. The first is that economics helps you understand how markets work. Wherever you are headed after business school, you will almost surely spend a lot of time thinking about markets: markets for consumer goods, long-term contractual markets for input supplies, markets for stocks and other financial instruments, labor markets, markets for new goods, and on and on. Even if you go into the nonprofit or public sector, you will have to think about how your activities affect and are affected by related market activities.

A second aspect of economics addresses what the best way is to achieve a particular goal. In a business school context, this goal is usually maximizing profits. Specific examples economics can help answer are: How should a firm set prices to maximize profits? What is the right way to consider costs when calculating the profitability of different actions? How should a firm decide whether to enter a new market? How should a firm respond to the strategic actions of its competitors?

Having both sets of tools is necessary for making good business decisions. The aim of this course is to equip you with both these sets of tools. While the course will cover specific issues, the main emphasis of the course is developing an approach to thinking about economic problems. Like learning to ride a bicycle, learning to think like an economist takes practice. Merely observing how problems are approached in lectures or readings will not enable you to solve similar problems yourself. The only way to become proficient at solving economic problems is to do them yourself. The course will provide you many opportunities to do so, including problem sets, case, simulation, online experiment and class discussions.

COMPETITIVE AND CORPORATE STRATEGY

On successful completion of this course, you will be able to:

- Analyze a company's strategy in a systematic and rigorous way
- Assess market attractiveness and market positioning
- Analyze a firm's resources and capabilities
- Develop approaches to attaining competitive advantage
- Make recommendations for developing a viable and sustainable strategy
- Understand and critically evaluate business-level strategic decision-making
- Be able to assess the impact of strategic innovation and change

This course introduces you to the key principles of strategic management. The first four sessions focus on strategic analysis, covering the historical foundations of the subject. This includes market analysis, positioning, resources & capabilities and corporate strategy. In the process, we will analyze and use some of the classic strategy tools and models. The mid-term group presentations require you as a team to apply these tools learned to analyzing a particular case. The subsequent sessions proceed to introduce and discuss contemporary topics in strategy. This includes topics such as platform strategy, sustainability and behavioral strategy. The course gives an overview of the field and provides you with the tools and insights to rigorously analyze a company's strategy and develop one yourself.

FINANCIAL ACCOUNTING

This course aims at equipping master students with the necessary skill set to understand and critically assess financial accounting information. The ability to properly use accounting information is a pre-requisite for sound and successful managerial decisions. Financial accounting information is also very important for investors' and creditors' decisions to buy shares or to grant loans. However, financial accounting rules offer discretion for accounting decisions. The course aims at highlighting such decisions. Accounting decisions tend to be influenced by the information needs of its users (investors, creditors), but also by the specific incentives of its preparers (management). Thus, another important aim of the course is to show the limitations of financial accounting in overcoming information gaps. A sound understanding of financial accounting information allows the students to critically perform financial analysis, to evaluate the effects of business strategy decisions, to discover earnings management and to use accounting information for security valuation.

FINANCIAL MANAGEMENT AND CORPORATE FINANCE

This course introduces students to financial economics. The main focus of the course will be on methods for asset valuation that can (and will) be applied to the valuation of fixed-income securities, as well as risky cash flows. We will also discuss basic concepts in portfolio management, such as diversification and optimal portfolio selection. The course ends with an introduction to capital budgeting and capital structure policy.

The course starts with an introduction to discounted cash flow valuation, focused on the concept of present value. An important application will be discussed next: The valuation of fixed income securities, such as bonds. It will turn out that the bond market is an important source of information for capital budgeting, i.e. the term structure of spot and forward interest rates. The course will then move on to another main topic: The valuation of risk. We

will cover the Capital Asset Pricing Model (CAPM). The course ends with an introduction to capital budgeting. We first introduce the basics of capital budgeting, and then discuss capital budgeting in the presence of leverage.

ORGANIZATIONAL BEHAVIOR

This course is an introduction to organizational behavior – the study of human behavior in organizational settings (e.g., companies, schools, sports clubs). This is a rich field that draws upon many disciplines, including economics, psychology, sociology, anthropology, and political science. This course is based on evidence accumulated by social scientists in these disciplines. It advances understanding of the challenges of creating workplaces where people can maximize their individual potential in the context of organizational success. In the course we will learn major OB-related concepts and dilemmas.

This course is NOT an introduction to business principles or business strategy, and we will not discuss issues such as finance, marketing, or distribution channels. We will focus on individual, group, and organizational dynamics that take place within the boundaries of an organization – and not on the inter-organizational, often competitive, landscape.

Competencies developed

Upon completing this course, you will have acquired a set of concepts, frameworks, and skills you need to understand OB-related concepts and dilemmas, and to analyze OB-related issues with the appropriate rigor and methods. In particular, you will have developed skills

- to acquire a body of knowledge, frameworks, and techniques specific to behavior in organizations;
- to identify organizational behavior-related information and apply appropriate analytical tools to understand it;
- to display critical thinking, analysis, and creativity skills in understanding and analyzing OB-related situations and dilemmas;
- to apply concepts and frameworks from organizational behavior to business cases and real firms;
- to enhance effective interpersonal and "soft" skills in a variety of settings;
- to identify potential team conflicts and learn to effectively collaborate with others in teams;
- to enhance skills in written and verbal communication, teamwork, analytical thinking, decision-making, project planning, and general management.

STATISTICS II

Business decisions are often too complex to be made by intuition alone. We need to communicate the structure of our reasoning, defend it to adversarial challenge and deliver presentations that show we have done a thorough analysis. We also need to understand and make use of various sources of data, organize the inputs of experts and colleagues, and use state-of-the-art business software to provide analytical support to our reasoning. The overall objective of this course is to equip you with analytical thinking and techniques that help you be more effective in these tasks. The goal is to teach you how to perform data analysis to support decision-making, build simple but powerful models that test your intuitive reasoning, develop managerial thinking and facilitate the communication of your recommendations.

On successful completion of this course, you will be able to:

- Articulate, extract and analyze valuable information from data
- Understand and quantify the accuracy of sample evidence
- Build regression models to describe and predict complicated outcomes
- Communicate quantitative analysis and recommendations effectively
- Be able to use R and Excel effectively for data analysis

Understand the scope and limitations of the techniques taught in the course.

ECONOMETRICS

The main focus of this course will be on the quantitative evaluation of policies. The tools you will learn have been developed and used by economists, so the applications we will discuss will typically come from economics and public policy rather than business. However, these techniques can and should be applied in business situations as well. By mastering these tools and understanding how to employ them, therefore, you will be in a unique position to analyze the causal impact of different business strategies, covering a variety of areas including (but not restricted to) human resource management, marketing, product development, and pricing. Determining the causal impact of different policy interventions ("what works and what does not") is typically very difficult. The focus of this course is on presenting state of the art empirical methods to address this challenge. After reviewing the basics of regression analysis in the first couple of classes, we discuss the key benefits of randomized experiments, how to implement them in practice. We then cover a number of complementary methods for analyzing causal policy impact using quasi-experimental methods, employing observational rather than experimental data.

ECONOMICS OF INNOVATION AND NEW TECHNOLOGY

The purpose of this course is to introduce and explore the concepts of Innovation Management. Particular emphasis is placed on the need to view innovation as a management process that often links internal processes with external sources of information and innovation – as we will see, Innovation cannot be separated from wider social and market processes.

We will start mapping the innovation landscape by looking into a historical case that describes the development of the first self-powered plane by the Wright brothers. Building on this basic understanding of innovation processes and the interplay of various actors and institutions we will focus on innovation and NPD within a firm.

In addition to these general discussions of the management of innovation, technology strategy and NPD processes within organizations we will also focus on topics of particular relevance. For instance, we will discuss the role of intellectual property rights (e.g., patents) for innovation and the commercialization of inventions. In this context, we also have a closer look at the intersection of Innovation, IP and Business Development via licensing of inventions.

THE GLOBAL ECONOMY

This course provides global managers with a clear conceptual understanding of the opportunities and challenges involved with international business transactions. Senior managers face a diverse set of circumstances when they engage in cross-border business

(mainly trade and foreign direct investment) as opposed to purely domestic business: e.g., enhanced globalization (& de-globalization) forces and cross-national heterogeneity in economic development, institutions and cultures. International institutions and agreements governing trade and economic order constitute another important layer of the global economy. Accordingly, we will attempt to use the economic (applied economics to be specific) perspective as a tool to analyze these issues, make sense of the fundamental forces behind their dynamics, and understand their managerial implications.

ENTREPRENEURSHIP

What is entrepreneurship? What are key challenges in the entrepreneurial process and how can entrepreneurs overcome them? How can entrepreneurs use strategic thinking to develop more successful businesses?

While these questions are more difficult to answer than one may think, we will make some progress during our time together. We will first discuss key stages in the entrepreneurial process such as the creation and evaluation of opportunities, strategies to deal with uncertainty, the acquisition and development of resources and capabilities, and growing a new venture. We will then take a more external perspective to consider strategies to overcome barriers to entry and to compete against well-resourced incumbents. At the same time, we will recognize opportunities to create value collaboratively with other players.

VALUATION

The course focuses on the valuation of companies (equity securities as well as entire firms). The tools and techniques include preparation of a full financial model, estimation and forecasting of free cash flows and other valuation attributes, application of valuation models (such as free cash flow, residual income and EVA), and understanding market-multiples valuation approaches (such as price-earnings ratios, EBITDA multiples, etc.). We use problems and cases developed from and around actual financial statements in various settings, such as regular "going concern" valuations, mergers and acquisitions (M&A), initial public offerings (IPOs), private equity settings, etc.

We also show how to practically incorporate various finance theories and concepts into the valuations, emphasizing that valuation is often context-specific in practice. In addition to viewing equity valuation from a fundamentals perspective, we will cover selected trading strategies, including technical strategies and accounting- and market-based trading rules.

The material is designed for students who have little or no professional background in analysis and valuation. I assume a basic understanding of financial accounting, finance, and regression analysis. I also expect you to be able to manipulate Excel spreadsheets and we will learn how to collect data from various databases. The course is beneficial for students planning careers in investment banking, portfolio management, corporate finance, consulting and security analysis. It is also valuable to students who sit "on the other side" and wish to attract investors, where knowledge about financial modeling and valuation techniques is important.

Note that the course is of the "get your hands dirty" variety. That is, we will place focus on the practical implementation of financial modeling and valuations, and we will run real-world trading strategies.

OPERATIONS AND SUPPLY CHAIN

Operations and Supply Chain concerns the activities that organizations do to produce goods and services for their customers. More succinctly, it studies how organizations match supply

with demand. Organizations typically source inputs (raw materials, capital, labor, technology etc.), add value by bringing the inputs together and processing them into products or services, and finally deliver these products to satisfy consumer demand. In this course, you will study strategies that help organizations build a competitive advantage by superior management of each of these activities- sourcing inputs, processing them into finished goods or services, and delivering them to the consumers. In doing so, we will consider the entire value chain, and discuss strategies to streamline flows and to coordinate decisions among different organizations.

NEGOTIATION

We negotiate almost every day - with employers, coworkers, significant others, roommates, parents, bosses, merchants, service providers, etc. Determining what price we will pay, the amount of our salary and compensation, what movie to watch, who will clean the kitchen … all of these are negotiations. Although negotiations are a ubiquitous part of our everyday lives, many of us know little about the strategy and psychology of effective negotiations. Why do we sometimes get our way, while other times we walk away feeling frustrated by our inability to achieve the agreement we desire?

Negotiation is the art and science of securing agreements between two or more interdependent parties with different preferences and motives. The purpose of this workshop is to understand the theory and processes of negotiation in different situations. The workshop is designed to give you a foundational understanding of negotiations and equips you to more effectively negotiate with range of different partners - in business and private life.

LEADING AND MANAGING PEOPLE WITH AGILITY

How can you manage and lead people effectively? As organizations become increasingly flat and fluid, managers must acquire a broad set of psychological and interpersonal skills that only a few decades ago would have appeared to be unnecessary. This course aims to help students recognize the complexity of managerial life and acquire competencies that will help them deal effectively with such complexity. In particular, we will focus on how managing relations upwards (with those who have authority over you), downwards (with those over whom you have authority), and laterally (with peers within and across organizational silos) is essential in order to create value and succeed in present-day organizations.

MARKETING MANAGEMENT

Marketing management covers the science and art of how to meet customer needs profitably. We start by discussing how to set a marketing strategy that achieves a long-term competitive advantage. Based on such a strategy, you will gain insight into key marketing decisions regarding the product portfolio, pricing, sales, and communication. Furthermore, you will collect hands-on experience by crafting a marketing plan for a real company that combines all major decisions into one powerful guideline.

BUSINESS SIMULATION MARGA

The objective of this course is to provide the ESMT MIM participants with an opportunity to put their managerial knowledge and skills into practice. Since management is fundamentally a "discipline" devoted to decision-making and action, MIM participants will be placed in a situation as close as possible to what managers experience every day. This will be done via a

business simulation (sometimes also called business game) in which the participants in teams have to manage a virtual company for five quarters. The business simulation is called "MARGA" (for MARket GAme). This simulation allows participants to make decisions in all corporate functions typically found in a real company; furthermore, companies' results are based on what other companies do thus inducing participants to compete among teams. Team members make real decisions in the areas of R&D, marketing, production, personnel, controlling, and finance, among others. In this way, they learn how the different areas work together in the context of the company as a whole. The overall goal for the team, in direct competition, is to align its product and service spectrum with market demand. Supported by effective controlling tools, teams are able to manage their companies according to the principles of value-based management and to maximize their company value.

Business Analytics

DATA SCIENCE FOR ANALYTICS

This class provides an introduction to the principles of data science and machine learning. We work on our skills in handling, cleaning, manipulating, storing, and analyzing large data sets. We get to know the fundamental principles of data science, such as supervised and unsupervised learning, training set and validation set, and how to evaluate the performance of machine learning algorithms.

We learn how to apply state-of-the-art techniques to analyze data, including high-dimensional data ("Big Data") where the data has more features than observations.

The approach taken is very hands-on. All concepts will be implemented using the programming language python. We will use several real world data sets to apply our knowledge on relevant Business questions. The techniques covered in the class will be applied in student projects that put the data tools into practice.

PREDICTIVE ANALYTICS

The course is built on a balance of quantitative and qualitative materials, and it discusses advanced statistical research methods using examples from a variety of application areas:

Marketing, Economics, Finance, Psychology, Supply Chain. This class builds on the Statistics course earlier in the program, and it complements the analytical tools that you acquired in the Econometrics and Data Science for Analytics courses. All students are expected to read the assigned readings before coming to class. Quantitative aspects will be studied in detail in class.

The course will consist of a mix of lectures where we will discuss methodological aspects and a few examples, and workshops where you will have the chance to apply the methods introduced in class to the analysis of different data sets. We shall use software in order to apply the methods discussed in class to the analysis of different data sets. Therefore, for the workshop sessions, please make sure that you bring computers to class. You will find all necessary materials on the eLearning platform.

MACHINE LEARNING AND CAUSALITY

In this class, you learn how to combine predictive methods from machine learning (as learned in "Data Science for Analytics") with econometric approaches that aim to establish causality

(see "Econometrics"). The fundamental evaluation problem that makes causal analysis difficult is that we observe every unit of observation only in one state, either as treated or as non-treated. In Econometrics, you came across a range of methods to deal with this problem: randomized controlled trials, instrumental variables, difference-in-differences, and others. Common to these approaches is the goal to find an appropriate control group to define the counterfactual ("how would the treated look if they were not treated?"). Since we cannot observe this counterfactual, we have to predict it from the data at hand. This is where machine learning comes into play. As seen in "Data Science for Analytics", machine learning methods are useful to make accurate predictions based on observed data. We will get to know various methods to combine the two worlds of causal analysis and machine learning that are at the forefront of modern data science.

RISK MODELLING WITH SPREADSHEETS

In today's competitive business environment appreciating the risks resulting from management actions and optimizing investment decisions, can be sources of competitive advantage. Decisions are usually taken under considerable uncertainty and time pressure. Therefore, managers need to be able to grasp the range of uncertainty rapidly and make rational decisions that exhibit both flexibility and robustness. This course aims to enhance your analytic and problem structuring skills, with emphasis placed on the process of action oriented decision making. It also aims to equip you with specific skills in the areas of risk evaluation, resource management and optimization and project evaluation. You will be exposed to state-of-the art decision support tools and are expected to reach "end-user" level of modelling competence. This means that you should be in a position to deal with a messy real life project, recognize the areas where business analysis can add value, select appropriate types of analyses and apply them in a small-scale, quick-turnaround fashion.

ADVANCED DECISION MAKING TOOLS

This course aims at learning advanced analytical decision tools to help manager make sound business choices. We will explore how to model complex decision problems under uncertainty using these techniques and leverage the resulting analysis to make insightful business recommendations. This course is quite intensive and requires students to be very well prepared before each class.

Successful management requires the ability to recognize a decision situation, understand its essential features, and make a choice. However, many of these situations - particularly those involving uncertainty and/or complex interactions - may be too difficult to grasp intuitively, and the stakes may be too high to learn by experience. In these cases, we may benefit from using decision models - simplified representations of these situations that allow you to consider the different possible scenarios (i.e., ask "what if") and learn more about the problem. This course introduces advanced tools based on decision trees and provides an introduction to the art of modeling.

VALUE CHAIN ANALYTICS

The ability to make "intelligent" decisions is critical for both managers and firms. In today's hypercompetitive business environment, problems are too complex to rely simply on intuition and common sense. Quantitative decision tools developed in management science and statistics allow practitioners to base decisions on data-driven and scientific methods. This course prepares students to understand and analyze business data, use data to build analytical and simulation models, and apply these models to make better business decisions, with

particular emphasis on applications in value chain operations. Students also develop skills to infer operational performance and business model aspects from available data.

The course starts with a review of key operations management concepts in value chains. At the same time, the foundations for the two central objectives of the course are laid out: how to use data and analytics to make more effective operational decisions, and how to analyze existing data to infer operational characteristics of an organization. We start with the latter, and learn the basics of operational forensics applied to (possibly public) financial data. The course then changes gear to prescriptive analytics in value chains. After covering the fundamentals of modelling and optimization, different predictive analytics tools are introduced. These include linear programming, integer programming, mixed linear-integer programming models and network models. Methodological theories as well as spreadsheet implementations will be discussed in detail. Finally, simulation is introduced as a tool to model risk and to make decisions under uncertainty. For each prescriptive analytics method value chain applications are discussed in detail and practice is achieved though workshops and case studies.

Entrepreneurship and Innovation

THE HUMAN FACTOR OF INNOVATION

This course addresses selected management challenges and opportunities presented by innovation. Innovation is often a prerequisite for companies to stay abreast of competition. The management of innovation has often centered on company-internal aspects of this process, such as motivating scientists and engineers and creating effective collaborations between such specialized people. In recent years, there has been an increased interest in how companies can tap the expertise and resources of external partners. We start by mapping the innovation landscape and move to the internal and external activities firms can adopt when they seek to innovate. In particular, we focus on theories, tools and techniques that can be used to manage technological innovation successfully.

STARTUP CHALLENGE

This course uses a hands-on approach. You will receive guidance on how to structure and implement an entrepreneurial business, ranging from the inception of a product/service design to raising capital. Throughout the course the cross-functional and interdisciplinary nature of going from idea to company will be emphasized. The course will provide students with a unique opportunity to work on the key aspects of a convincingly showcase the value of an idea: (i) product (or service), (ii) competition, (iii) marketing/sales strategies, (iv) operations/human resources, and (v) financial planning.

During the course, students will gain the capabilities to develop a pitch deck and pitch. These skills are not only of high value for new entrepreneurial companies but also relevant in a broader business context. In fact, what we do is a central tool for planning and controlling new business activities/ventures within established organizations.

This course aims to develop:

• Your understanding of the key elements of a developing a pitch deck as well as a pitch for investors.

•   Your ability to apply knowledge, frameworks and techniques from many disciplines, such as marketing and finance, in the context of going from idea to company.

•   Your ability to modify existing tools to offer new solutions to complex problems or to create new opportunities.

•   Your ability to deliver effective written and oral presentations.

•   Your ability to identify all relevant stakeholders and propose solutions that take into account multiple interests when setting up new ventures.

•   Your ability to be innovative in the development of business solutions/ideas.

DESIGN THINKING

Many people believe that creativity is something you are born with, and if you are not, then the creative world is not for you. However, companies like IDEO and Google Ventures show it is possible to systematize the act of being creative. By learning these specially developed techniques, anyone can generate ideas and kick-start their creative thinking.

This course will focus on this practical application of Design Thinking. Students will learn the fundamentals of Design Thinking, within the framework of effective ideation. They will learn by doing and repeating, getting real hands-on experience with how to apply the techniques to real product concept and ideation scenarios.

The objective of this course is to give students the ability to solve problems and ideate effectively, not only when attempting to come up with innovate product and service concepts, but in their everyday life too. Students will leave this course with a new framework for approaching problems and identifying the best course of action, with techniques that they can integrate into their everyday workflow.

MATCHMAKERS IN DIGITAL ECONOMY

The Internet and digitization have modified business models in many industries, including retailing, media and entertainment. This course aims to familiarize you with effective management, pricing and investment strategies in technology-intensive businesses characterized as multi-sided platforms, MSPs, (or matchmakers) in digital economy. MSPs generate enormous value by reducing search costs and/or transaction costs, and so by facilitating interactions between different groups of users (sides). Many of the most valuable companies, including Alibaba, Apple, Facebook, Google, Microsoft, Visa, are matchmakers. The most valuable start-ups, such as Airbnb, Spotify, and Uber, are matchmakers, too. Matchmakers exhibit unique characteristics that make them very different from standard one-sided firms. MSPs need to attract two or more groups of users to be a viable business and there are network effects between these different groups of users. Due to these "indirect network effects", matchmakers face coordination problem in attracting different groups of users. Besides, digitization and rapid development of Internet have given rise to many virtual MSPs and enabled them to use strategies that were not feasible in a standard one-sided market.

This course aims to develop your understanding of MSPs' business models, their unique strategic challenges, and effective strategies to overcome these challenges. The course provides a collection of useful concepts and frameworks that can directly be applied by managers to solve real-world strategic and investment problems of MSPs in digital economy. The course covers company examples from digital industries, including online market places, like eBay, Amazon.com, search engine platforms, like Google, digital currency platform, like

Bitcoin. Even though most of the examples we will discuss are drawn from digital industries, the concepts and frameworks covered (e.g., network effects, switching costs) apply for other multi-sided platforms that do not operate in digital economy.

ENTREPRENEURIAL FINANCE

This course targets students who are interested in gaining a broader view of the financing landscape for entrepreneurial ventures. It further aims to prepare students who plan to get involved with entrepreneurial ventures in their careers -- as founders, advisors or investors. Session 1 will provide an overview of the financing landscape for entrepreneurial ventures, including financial bootstrapping, banks, angel investors, and some recent trends in entrepreneurial finance, such as crowdfunding in its different forms (e.g., donation, rewards, lending, and equity). Session 2 and 3 will focus on venture capital. It will start with an in-depth analysis of the structure of the European venture capital industry. Next, it will cover due diligence, valuation, term sheet negotiation, and post-investment involvement. Session 4 will cover a case comprising a set of simulations in which you will take the role of a VC or entrepreneur. Finally, Session 5 will focus on another way to realize entrepreneurial potential; by taking over an existing company through a management buy-out or management buy-in.

FINANCE AND INVESTMENTS

INVESTMENTS I & II

The aim of this course is to provide the theoretical background and foundations of investment theory. Particular attention will be paid to the investment in stocks and bonds. The applicability of the theoretical models and their empirical relevance will be discussed as well as how these are used in the academic literature to determine how and when to invest financial markets.

Students will learn about financial decision-making from the perspective of an investor. The course will be of particular interest to MIM students following the Portfolio Management Program (PMP) and/or students who intend to follow the finance specialization and are contemplating a career in the investment industry, investment banking, corporate finance, consulting or corporate treasury. This course provides a fundamental understanding of financial markets, market trading structures, the concepts of risk and return, diversification, asset allocation, efficient markets, investor behavior, equity and fixed income securities, portfolio performance strategies, and evaluation methods. This course has three main learning objectives: 1) You will learn the rationale behind the frameworks and analytical tools that form the current body of knowledge in finance and investments: Markowitz model, CAPM, prospect theory, among others. 2) You will learn how to apply these frameworks and techniques to complex investment situations and to identify and isolate the necessary critical information. 3) You will learn how optimal investment decisions are constrained by psychological phenomena affecting investors and portfolio managers.

INTERNATIONAL FINANCE AND RISK MANAGEMENT

This course tackles the fundamental dilemma of risk management, the risk-return trade-off, and presents risk management as a continuous process of identifying, measuring and monitoring the actual level of risk and taking actions to achieve the desired level of risk. From

this perspective, managing risk is not about reducing or eliminating risk, but about optimizing risk. We will focus in particular on the main sources of financial risk and the best practices to manage it. We will describe various instruments to hedge risk such as forward contracts, futures, options and swaps, study their characteristics and pricing, and examine typical applications of these instruments for financial risk management. Finally, as an application of optimal risk analysis, we will work on a concrete simulation case to study in detail the process of optimal portfolio choice, which is at the core of the theory of finance, and discuss the value of international diversification. Pre-requisites for this course are the techniques from financial theory (such as risk-adjusted discounting and financial markets equilibrium) and the techniques and concepts developed in Decision Theory (such as decision trees, subjective probability distributions, preference curves and prospect theory).

ENTREPRENEURIAL FINANCE

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ALTERNATIVE INVESTMENTS

This course provides an introduction to various alternative investments, i.e. asset classes other than standard equity or fixed income. We focus specifically on hedge funds, private equity and real estate. Alternative investments are broadly defined by four non-standard features. First, they are typically subject to limited regulation and formal disclosure requirements. Second, information hurdles and search costs for investors are high. A third distinctive feature is their illiquidity. And fourth, they have typically low correlations with traditional investments such as stocks and bonds. Overall, these non-standard features make them highly attractive investments given their potential diversification benefits, which explains their rapid growth in recent years.

The first part of the course focuses on hedge funds, their investment techniques, business models, the measurement of their performance, their risk-return characteristics and their impact on portfolio construction, and finally the types of hedge fund investors and their fund selection process. The course will cover the essential facts about this industry, combining theory, findings from the academic literature and empirical exercises, using actual hedge fund data to calculate alphas, measure risk and form portfolios from an investor's perspective.

The second part of this course will first introduce private equity as an alternative asset class. What are the different models to invest in the private equity industry? What are the roles of limited partners and general partners? Next, it will focus on how a typical private equity investment - a buy-out - is structured. We will hereby develop a full buy-out model, focusing on the debt as well as on the equity side. In a first buy-out case, the focus is on the analysis

of a proposed deal: is this deal expected to yield sufficient return for investors? In a second case, students will be asked to negotiate their own buy-out deal, including the price to be paid, the amount and type of debt to be raised, and the split of the equity between investors and management.

The third part of this course covers a wide range of investment topics relating to real estate and mortgage assets. The course is applied in nature in that the actual practices of real estate professionals are taught and discussed. Some of the topics to be covered are: real estate in the mixed-asset portfolio; real estate performance measurement, real estate equity securitization, and the surge and fall in mortgage-backed securities. The primary objectives are to link the real estate markets to the financial markets, giving full attention to the theoretical real estate investment issues involved.

Global and Digital Strategy

STRATEGIC INTERNATIONAL MANAGEMENT
Strategic International Management is a course on firms competing internationally. It builds on several courses you have already taken, particularly Competitive and Corporate Strategy, where you mainly focused on how a business can obtain sustainable competitive advantage based on its unique resources and capabilities. Our course goes beyond this perspective, specifically looking at how a company can compete in a global environment where specific challenges arise.

Competencies developed
Upon completing this course you are expected to:
- Develop an appreciation of the peculiar aspects of sustainable business growth that emanate from cross-border operations;
- Acquire a set of concepts, frameworks, and skills you need in successfully practicing strategy in a global context;
- Practice skills that you need to design robust international strategies;
- Develop competences to play a meaningful role in strategy formulation and implementation processes.

By facilitating the attainment of these competencies, this course directly addresses several learning objectives of the program, particularly with respect to applying an appropriate body of knowledge, frameworks and techniques, identifying critical information and issues in complex situations, and integrating long-term sustainability and ethical considerations into written and oral presentations. The course also aims at developing important generic skills, including utilizing interpersonal skills in team- and negotiation settings, and delivering effective presentations.

DIGITAL BUSINESS TRANSFORMATION
Want to transform traditional companies in digital champions? Digital transformation is the fast and profound transformation of traditional business, internal processes, individual and organizational competencies, to harness the opportunities related to the most relevant digital technologies (Artificial Intelligence, Internet of Things, Cloud Computing, …).
Many traditional companies continue to operate without a deep understanding of the digital rules, and of the framework needed to make digital and traditional processes compatible.

In this course we discuss the main technology trends impacting big companies, we select a target company to transform, we perform a strategic assessment of the company, we select the core process(es) to transform, we design a "prototype" of the process, we ensure that people, teams, organization, and top management are aligned towards the same goal.

Learning Outcomes:

At the end of the course, students will be able to:
a) design and develop a concrete plan for digitally transforming a company;
b) design the concrete business usage of contemporary technologies;
c) develop an orientation to digital matters in business, to act as a consultant in digital transformation of traditional companies.

MATCHMAKERS IN DIGITAL ECONOMY

The Internet and digitization have modified business models in many industries, including retailing, media and entertainment. This course aims to familiarize you with effective management, pricing and investment strategies in technology-intensive businesses characterized as multi-sided platforms, MSPs, (or matchmakers) in digital economy. MSPs generate enormous value by reducing search costs and/or transaction costs, and so by facilitating interactions between different groups of users (sides). Many of the most valuable companies, including Alibaba, Apple, Facebook, Google, Microsoft, Visa, are matchmakers. The most valuable start-ups, such as Airbnb, Spotify, and Uber, are matchmakers, too. Matchmakers exhibit unique characteristics that make them very different from standard one-sided firms. MSPs need to attract two or more groups of users to be a viable business and there are network effects between these different groups of users. Due to these "indirect network effects", matchmakers face coordination problem in attracting different groups of users. Besides, digitization and rapid development of Internet have given rise to many virtual MSPs and enabled them to use strategies that were not feasible in a standard one-sided market.

This course aims to develop your understanding of MSPs' business models, their unique strategic challenges, and effective strategies to overcome these challenges. The course provides a collection of useful concepts and frameworks that can directly be applied by managers to solve real-world strategic and investment problems of MSPs in digital economy. The course covers company examples from digital industries, including online market places, like eBay, Amazon.com, search engine platforms, like Google, digital currency platform, like Bitcoin. Even though most of the examples we will discuss are drawn from digital industries, the concepts and frameworks covered (e.g., network effects, switching costs) apply for other multi-sided platforms that do not operate in digital economy.

DIGITAL MARKETING

A practical introduction to Digital Marketing, approaching Digital Marketing from the perspective of: If you were to work in Digital Marketing after the program (or have to work with departments/groups in Digital Marketing), what will you be doing?

With this purpose in mind, we will look at Digital Marketing in various ways:

• What are the areas/branches/competencies of Digital Marketing? Basic introductions to online campaign management, SEO/SEM, Social Media, Web Analytics, Testing (A/B, Multi-Variate) and Marketing Automation.

- How is Digital Marketing breaking out of its silo in companies now, particularly with regards to CRM, Business Intelligence and 'offline' marketing? The Single Customer View plays an important role here.

- Where does Digital Marketing (and its departments/people) fit within a company in 2019/2020? Including Digital Marketing v. Traditional Marketing.

We will finish with the question: Do we, as Digital Marketers, have greater responsibilities than just marketing?

DIGITAL INNOVATION AND ENTREPRENEURSHIP

Entrepreneurship is a relatively young field of study that has received wide scholarly and public attention during the past decades. We have witnessed a global surge in new business creation, not exclusively limited to, but strongly influenced by advances in digital technologies. Against this background, this course offers theoretical foundations of and case-based insights on technology-based entrepreneurship, with a particular focus on innovation in the digital space. We will cover key concepts such as the individual-opportunity nexus, entrepreneurial heuristics, or entrepreneurial marketing. Through further delving in to recent ongoing phenomena of digitization and industry convergence, we will develop an understanding of the dynamics between incumbent and entrant firms, and analyze opportunities for entrepreneurial action. We will work with recent selected case studies in online media, consumer electronics and industry 4.0, and support in-class discussions with related readings between the sessions.

Social Impact Project

The Social Impact Project serves a number of ends in your degree. It develops certain skills in initiative-taking, problem-solving, and project management skills that are difficult to develop without guided practice. Special to ESMT, though, you are asked to use these skills to benefit society as a whole, which is a cornerstone of ESMT's mission as a school. The Social Impact Project is therefore applied fieldwork with the goal of developing well-rounded, socially conscious graduates. It is meant to fulfill the following objectives:

- To provide opportunities for applied fieldwork in the practices and theories discussed in core courses

- To further hone soft skills such as communication, presentations, and reporting

- To provide an immersion in a foreign country, preferably in a social group unfamiliar to one's own

- To scope, deliver, and finish an applied project in coordination with a global organization, with the goal to deliver a finished report or deliverable that adds value to the organization you are partnering with.

We encourage you to push yourselves personally during the project, which is combined with the Sustainability course.