

Courses' Syllabus

2020 | 2º Semester (Jul-Dec)

Academic Support

June/2020

INDEX

ADVANCED TOPICS IN CORPORATE FINANCE.....	3
ANALYSIS OF THE ECONOMIC ENVIRONMENT II.....	5
ARTIFICIAL INTELLIGENCE FOR DECISION MAKING.....	7
BEHAVIORAL ECONOMICS AND FINANCIAL MARKETS	9
CIRCULAR ECONOMY: DESIGN FOR THE FUTURE.....	10
CONSUMER BEHAVIOR: SCIENCE AND PRACTICE.....	12
CROSS-CULTURAL MANAGEMENT.....	14
DECISION MAKING AND NEGOTIATION	16
DESIGN THINKING.....	17
DIGITAL MARKETING.....	19
GLOBAL CITIES.....	20
INTEGRATED MANUFACTURING PLANNING.....	22
INTRODUCTION TO QUANTUM COMPUTING	25
PARTICIPATORY DESIGN FOR HUMANITARIAN DEVELOPMENT.....	27
SUSTAINABLE DESIGN	29
TECHNOLOGICAL INNOVATION	31
VALUE CHAIN AND BUSINESS ECOSYSTEMS MANAGEMENT.....	33

ADVANCED TOPICS IN CORPORATE FINANCE

Course Load: 80 hours

Course Description:

This is a course on applied corporate finance. The course format is based on assigned readings, exercises, seminars and cases from textbooks and other sources. The seminars and cases should enhance understanding and comprehension of textbook materials and provide a link from theory to business situations.

Students will address issues in capital budgeting, financing decisions, risk management, corporate governance and agency problems and compensation. The purpose of the cases is not to introduce these topics, but to further examine the theoretical concepts and models of finance and how they can be applied to reasonably realistic situations.

Objective:

The course's general objective is to develop the analytical skills for decision-making based on Finance theory studied in core courses. It combines lectures, seminars and case analysis to deal with selected topics in Corporate Finance such as governance, valuation, capital budgeting, cost of capital, capital structure policy, issuance of securities, mergers and acquisitions and risk management for the attainment of corporate economic goals and value creation.

Program Content:

Part of the course makes the use of lectures and seminars to present advanced techniques and applications, thus creating the setting for the subsequent preparation and analysis of case studies. The goal is to further the knowledge acquired in finance required and elective courses on corporate finance and financial instruments and markets.

In the other (core) part of the course the students will become involved in the discussion of several Harvard Business School and Darden case studies based on situations of the real world. It is expected that students prepare in advance for active participation in instructor led classroom discussions. Analytical tools will be applied to the examination of situations in which financial techniques, instruments and strategies were employed by corporations, with or without success.

Session topics will include:

- The cost of capital, valuation and capital budgeting
- Capital structure policy, capital markets and issuance of securities (fixed income and equity)
- Currency and commodity risk management (derivative instruments)
- Corporate governance, performance measurement, agency problems and compensation
- Merges and acquisitions

Basic Bibliography:

Books:

ROSS, S.; WESTERFIELD, R.; JAFFE, J., **Corporate Finance**, 9^a ed., McGraw Hill, 2009
BREALEY, R. A; MYERS, S. C.; ALLEN, F., **Principles of Corporate Finance**, 11^a ed., McGraw-Hill, 2014
BODIE, Z. et al., **Investments**, 10^a ed., Mc Graw Hill, 2014

Complementary Bibliography:

Books:

HULL, J. C., **Options, Futures, And Other Derivatives**, 8^a ed., Prentice-Hall, 2012
STULZ, R., **Risk Management and Derivatives**, 8^a ed., Prentice-Hall, 2012

FABOZZI, F.J. , **Fixed Income Analysis & Workbook** , 2ª ed., Wiley, 2007

DAMODARAN, A,, **Corporate Finance: Theory and Practice**, ª ed., John Wiley, 1997

NEFTCI, S. , **Principles of Financial Engineering**, 2ª ed., Elsevier, 2008

Articles:

MEHRA, R.; PRESCOTT, E. C. . The quity premium: a puzzle. **Journal of monetary economics**. , v. 15 , n. 2 , p. 145-161 , 1985. ; available at: <https://www.academicwebpages.com/preview/mehra/pdf/The%20Equity%20Premium%20A%20Puzzle.pdf>. Access in: 23 may 2019.

FAMA, E. F.; FRENCH, K. R.. The cross-section of expected stock returns. **The journal of finance**. , v. 47 , n. 2 , p. 427-465 , 1992.

ANALYSIS OF THE ECONOMIC ENVIRONMENT II

Course Load: 80 hours

Course Description:

Monetary policy. Quantitative easing. Economic policy and behavior of macro variables. Leading and lagging indicators. Fiscal policy. The external sector. Growth forecast.

Objective:

Discuss and debate the ongoing problems in the macroeconomic scenario in Brazil and in the key countries like: US, UK, Brazil, Eurozone, Canada, Japan and China. The idea is to put together the previous theoretical framework that students learn in the early Macro and International Economics course with a real world approach. With that in mind, the course has two goals: one is to offer a crash course in economics and the second, and more broad, idea is to prepare students for the demands of the upcoming job market.

Program Content:

- Level of Activity: the real side of the economy.
- Employment and Income.
- Inflation and Monetary Policy
- Public Finance and Fiscal Policy.
- External Sector and the World Economy.

Basic Bibliography:

Books:

BLANCHARD, O., **Macroeconomia**, 5ª ed., Pearson - Prentice Hall, 2011

MISHKIN, Frederic S., **The Economics of Money, Banking and Financial Markets**, 8ª ed., Pearson - Prentice Hall, 2006

KRUGMAN, Paul R.; OBSTFELD, Maurice., **International Economics**, 10ª ed., Prentice Hall, 2015

Articles:

MADDOCK, R.; CARTER, M. A child's guide to rational expectations. **Journal of economic literature**, v. 20, n. 1, p. 39-51, 1982. ; Available at: <http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=3&sid=6f4eb326-c6e4-483fb207-b9f814295284%40sessionmgr4010>. Access in: 23 may 2019.

Complementary Bibliography:

Books:

ANDREW, B. A., **Macroeconomia**, 6ª ed., PEB - Pearson, 2008

SACHS, J. D.; LARRAIN B., F., **Macroeconomia**, ª ed., Pearson, 2000

BAIN, Keith; HOWELLS, Peter., **Monetary Economics: Policy And its Theoretical Basis**, 2ª ed., Palgrave Mcmillan, 2003

CHAMP, Bruce; FREEMAN, Scott., **Modeling Monetary Economies**, 2ª ed., Cambridge University Press, 2001

SARGENT, Thomas J., **Dynamic Macroeconomic Theory**, ª ed., Harvard University Press, 1987

Articles:

FRIEDMAN, M.. The role of monetary policy. **American economic review**, v. 58, n. 1, p. 1-17, 1968. ; Available at: <http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=0&sid=a47d61e1-40d3-40db-bc75-5d7ec90a06a4%40sessionmgr4006>. Access on: 23 may 2019.

ESTRELLA, A.; MISHKIN, F. S.. Predicting U.S. Recessions: financial variables as leading indicators. **The review of economics and statistics**, v. 80, n. 1, p. 45-61, 1998. ;

Available at: <http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=4&sid=faa5f7dc-e44b-4962-86aa-2ecff9633dc0%40sessionmgr4006>. Access em: 23 may 2019.

ARTIFICIAL INTELLIGENCE FOR DECISION MAKING

Course Load: 80 hours

Course Description:

The rise of Big Data and super computing power, that enables the growing importance of Artificial Intelligence, is changing the Business Landscape. This course will help students understand some AI technologies, such as Machine Learning, Deep Learning, Robotics and Natural Language Processing, that can complement and expand the interaction between humans and machines in order to improve the decision-making process.

This course aims to give an overview on different fields to which Artificial Intelligence can be applied such as Law, Healthcare, Insurance, Retail, Energy, Finance, etc. But the main focus will be on Artificial Intelligence for Business.

A final phase of this course is a group project in which students will be asked to develop a hypothesis on how Artificial Intelligence could potentially be used to transform an organization.

Objective:

At the end of the course, students will be able to:

- Recognize the current state of Artificial Intelligence
- Understand the founding different techniques applied by Artificial Intelligence
- Analyze potential applications of Artificial Intelligence to decision making

Program Content:

Case studies and discussions will cover the following themes, from not only an academic but also from big Consultancies and the World Economic Forum points of view:

- A brief history of Artificial Intelligence
- The Decision-Making Process (on a strategic, tactic and operational level)
- Taxonomy of AI techniques
- Weak, Strong and Super Artificial Intelligence
- Applied Artificial Intelligence
- The future of Artificial Intelligence
- The role of Governments and Businesses to define the limits and ethics of Artificial Intelligence.

Basic Bibliography:

Books:

AKERKAR, R. **Artificial Intelligence for Business**. Switzerland: Springer, 2019

KAPLAN, J. **Artificial Intelligence: What everyone needs to know**. New York: Oxford University Press, 2016

MARR, B. **Artificial Intelligence in Practice – How 50 successful companies used AI and Machine Learning to solve problems**. United Kingdom: Wiley, 2019

Complementary Bibliography:

Books:

DAVENPORT et al. **Artificial Intelligence: The insights you need from Harvard Business Review**. Boston: HBR Press, 2019

MARCHAU et al. **Decision Making under Deep Uncertainty**. Switzerland: Springer, 2019.

FINLAY, S. **Artificial Intelligence and Machine Learning for Business**. UK: Relativistic, 2017

KUBAT, M. **An Introduction to Machine Learning**. Switzerland: Springer, 2017

KANSI, S. **Introduction to Deep Learning**. Switzerland: Springer, 2018

Articles:

CHUI, M. et. al. **Notes from the AI frontier: insights from hundreds of use cases.** McKinsey Global Institute. April, 2018

Ng, A. **WIPO Technology Trends: Artificial Intelligence**, 2019

SHRESTA, Y. R.; BEM-MENACHEM, S. M.; KROG, G. **Organizational Decision- Making Structures in the Age of Artificial Intelligence.** California Management Review, 2019

DUAN Y., et al. **Artificial intelligence for decision making in the era of Big Data – evolution, challenges and research agenda.** Elsevier, 2019.

S. Ransbotham, S. Khodabandeh, R. Fehling, B. LaFountain, and D. Kiron, **“Winning with AI,”** MIT Sloan Management Review and Boston Consulting Group, October 2019.

BEHAVIORAL ECONOMICS AND FINANCIAL MARKETS

Course Load: 80 hours

Course Description:

In economic theory, the standard model of behavior is that of a perfectly rational, self-interested utility maximizer with unlimited cognitive resources. In many cases, this provides a fair approximation to the types of behavior that economists are interested in. However, over the past 30 years, psychologists, experimental and behavioral economists have documented ways in which the standard model is not just wrong but is wrong in ways that are important for economic outcomes. Understanding these behaviors, and their implications, is one of the most exciting areas of current economic inquiry. The aim of this course is to provide a grounding in the main areas of study within behavioral economics, including temptation, fairness and reciprocity and reference dependence.

Objectives:

For each area we study three things:

1. The evidence that indicates that the standard economic model is missing some important behavior;
2. The models that have been developed to capture these behaviors;
3. Applications of these models to the financial markets.

Program Content:

The course applies behavior economics to financial markets. We use a trading software with real time data where students apply, in practice, bounded rationality, herd behavior and choice under uncertainty - key elements from behavior economics. We create trading positions of stock indexes, interest rates and currencies. Using the software, students trade futures and derivatives. The choice of buying or selling any asset is a decision that is based on economic analysis but is also deeply affected by psychological reasoning. Our intention is to show that behavior economics can be applied to the financial markets in general, and to trading, in particular.

Basic Bibliography:

Books:

KREPS, D. 2018. Notes on the Theory of Choice (e-book version) New York: Routledge.
KAHNEMAN, D. 2011. Thinking Fast and Slow. (e-book version 2018). New York: Farrar, Straus and Giroux.
SCHILLER, R. 2000. Irrational Exuberance. (e-book version, 2015). New Haven: Princeton University Press.

Complementary Bibliography:

Books:

SARGENT, T. 1994. Bounded Rationality in Macroeconomics. New York: Clarendon Press.
THALER, R. and CASS SUNSTEIN. 2009. Nudge: Improving decisions about Health, Wealth and Happiness (ebook version). New York: Penguin books.
MURPHY, J. 2011. Technical Analysis of the Financial Markets. New York: NYIF.
SHWAGER, Jack. Market Wizards (MW), New York: Harper Collins, 1989.
SCWAGER, Jack. The New Market Wizards (NMW), New York: Harper Collins, 1992.

Articles:

MULLANAITHAN, Sendhil; THALER, Richard. Behavioral Economics. NBER Working Paper 7948, <http://nber.org/papers/w7948>, October 2000
KAHNEMAN, D. (2003) "Maps of Bounded Rationality: Psychology for Behavioral Economics." American Economic Review, 93(5): 1449-1475.

CIRCULAR ECONOMY: DESIGN FOR THE FUTURE

Course Load: 40 hours

Course Description:

The future is our contemporary!

So are its challenges and possibilities for solutions. The course proposes a deep incursion in the future as it provides to all students a set of theoretical, practical and group work experiences aimed at identifying and designing solutions to problems that lie ahead. In this sense, the course builds upon a project-based learning approach in which the development of a Circular Economy intervention guides learning and reflection.

The course converges towards the search for epistemological and methodological integration between Economics, Business and Engineering at INSPER. The course unfolds upon three articulated axes.

The **first axis develops the concept of Circular Economy** through lectures and a handful of real circular solution cases. Circular Economy is an advanced economic and harmonious industrial system that relies on the systematic application of strategies that slow, close or narrow material and energy flows aiming for a sustainable future (KIRCHHERR; REIKE; HEKKERT, 2017). Ideally, the cycles of materials – technical and biological nutrients – and energy enable reducing to zero the need for additional resource input and waste leakage to maintain a specific system (ELLEN MACARTHUR FOUNDATION, 2013). Issues such as systems thinking (MEADOWS, 2008), natural capital valuation (COSTANZA, 1997), servitisation (STAHEL, 1997), sharing economy (RIFKIN, 2014), and life-cycle engineering (UNEP, 2007) are central for the Circular Economy concept and will be discussed throughout the development of the first axis. It sustains the conceptualization of an envisioned system and definition of the metrics to evaluate the solutions proposed.

The **second axis involves comprehending the role of Systems Thinking to achieve transitions** into radically new sociotechnical structures like the Circular Economy. Thinking in systems enables understanding the complex network of causes and effects emanating from a problematic system (MEADOWS, 2008), e.g. the linear economy threatening Earth stability (STEFFENS et al., 2015). Envisioning and creating paths for the transition to the desired situation is enabled by understanding the causal structure of the as-is system. On the other hand, path dependence from cultural and infrastructural conditions restrict the options for today's interventions. Also, interventions may enact rebound effects, i.e. unintended systemic responses that can even overcome envisioned benefits. This way, Systems Thinking is embedded in this course to facilitate defining and prioritizing viable paths of transition from a linear to a Circular Economy.,

The **third axis unfolds in the development of an intervention in the form of a business model and compelling narrative of change**. Students will be encouraged to envision a long term intervention, to back cast to a solution that enables that desired future right away, and to carry out experimentation of such solution through minimal viable products and prototypes towards implementation. Design good practices and methods will be provided to the teams (e.g. IDEO, 2016, LOORBACH, 2010). Students should develop the narrative necessary for validating the proposed business model along with users and specialists.

In this course, designing for the future means conceptualizing, prioritizing and experimenting interventions that enable the Circular Economy.

Objectives:

At the end of the course, students should be able to:

- Understand and represent systems composed of multiple causes and feedback structures.
- Understand the Circular Economy concept and identify ideal cases that exemplify its application.
- Select and apply methods to design, prioritize and experiment interventions to achieve a more desired (and more circular) future within a specific context.

Throughout the course, students will be stimulated to develop skills such as teamwork and communication.

Program Content:

1. Axis 1: Circular Economy
 - a. The Anthropocene and the Linear Economy flaws
 - b. CE Concept and related schools of thought
 - c. Types of circular solutions and cases classification
2. Axis 2: Systems Thinking
 - a. Developing Multiple Cause Diagrams
 - b. Assessing future behavior and impacts
3. Axis 3: Intervention design (Hands-on)
 - a. Designing for Transitions
 - b. Circular value design and experimentation

Basic Bibliography:

Books:

ELLEN MACARTHUR FOUNDATION. Towards the circular economy: Economic and business rationale for an accelerated transition. Cowes, UK: [s. n.], 2013. E-book.
MCDONOUGH, William; BRAUNGART, Michael. Cradle to Cradle: Remaking the way we make things. New York: North Point Press, 2010.
MEADOWS, Donella H. Thinking in Systems: a Primer. London: Earthscan, 2008.

Complementary Bibliography:

Books:

BOCKEN, Nancy et al. Product design and business model strategies for a circular economy. Journal of Industrial and Production Engineering, v. 33, No.5, p.308-320, 26 abr. 2016.
FRIEDMAN, Thomas L. Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations. New York: Farrar, Straus and Giroux, 2016.
GRIGGS, David et al. Sustainable development goals for people and planet. Nature, v. 495, p. 305-307, 21 mar. 2013. IDEO. The Circular Design Guide. 2017. Available at: <https://www.circulardesignguide.com/>. Acesso em: 19 abr. 2019.
LOORBACH, Derk. Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework. Governance: An International Journal of Policy, Administration, and Institutions, v. 23, n. 1, p. 161-183, Jan 2010.

Articles:

SIMON, Herbert A. The Sciences of the Artificial. 3. ed.: The MIT Press, 1996. 231p.
STAHEL, Walter. Circular Economy. Nature, v. 531, p. 435-438, 24 mar. 2016.
STAHEL, Walter. The service economy: 'wealth without resource consumption'. Philosophical Transactions of the Royal Society A, Great Britain, v. 355, n. 1728, p. 1309-1319, 1997.

CONSUMER BEHAVIOR: SCIENCE AND PRACTICE

Course Load: 80 hours

Course Description:

Cognitive biases. Influence by peers. Commercials. Government. Customer and consumer behavior. Consumers' decisions. Cognitive and emotional decision-making. High-involvement and low-involvement decision-making. Compensatory and no compensatory decision-making. Psychology, social psychology, academic marketing, and behavioral economics.

Objective:

You will:

- Learn key theories and research from the behavioral sciences that help us understand consumer behavior;
- Develop an understanding of consumer's value and limitations and apply these concepts and theories in developing and evaluating marketing strategies;
- Develop your skills in managing and implementing a multi-step group project and practice oral and written communication skills;
- Analyze a case study to identify how the featured organization used insights about the consumer decision-making process to design a marketing campaign for a new product;
- Examine how social media, co-creation and customer involvement, and "conscience" marketing are reshaping consumers' decision-making process, and analyze these developments' implications for marketers.
- be able to conduct marketing research, which will include developing research designs in order to build and analyze an experiments.
- be able to communicate market research results effectively.

Program Content:

This course is divided in three main groups of contents:

- 1) Consumer Focused Strategy
 - Consumer Evaluation and Choice
 - Consumer Segmentation and Positioning
 - High-involvement versus low-involvement
 - Overview of Consumer Decision Making
 - Risk and Consumer Decision Making
 - The importance of studying consumer behavior
- 2) How consumer Process Information
 - Affect and Motivation
 - Automatic Information Processing
 - Learning and Memory
 - Perception and Attention
 - Personality and Self-Concept
 - Persuasion Through Social Influence
 - Persuasion: Attitude and Judgment
- 3) Contemporary Strategies for Marketers
 - Co-creation involvement
 - Cultural Differences
 - On Line Consumer Behavior
 - Social Media
 - Word of Mouth Strategy
- 4) Marketing Research Techniques
 - One on one Interview and Projective Techniques
 - Quasi-Experimental and Field Experiment Design

Basic Bibliography:

Books:

MALHOTRA, N. K., **Marketing Research: An Applied Orientation**, 6ª ed., Pearson, 2010
SOLOMON, M. R.; BAMOSSY, G.J.; ASKEGAARD S. , **Consumer Behavior: A European Perspective**, 1ª ed., Prentice-Hall, 2009
BLACKWELL, D. R.; MINIARD, P. W.; ENGEL, J. F. , **Consumer Behavior**, 10ª ed., Thomson/South-Western, 2006

Article:

PUCCINELLI, N. M. et al.. Customer experience management in retailing: understanding the buying process. **Journal of retailing**. , v. 85 , n. 1 , p. 15-30 , 2009. ; Available at: <https://www.sciencedirect.com/science/article/pii/S0022435908000869?via%3Dihub>. Access in: 23 may 2019.

Complementary Bibliography:

Books:

ARIELY, D.; SIMON J. , **The Upside of Irrationality: The Unexpected Benefits of Defying Logic at Work and at Home**, 1ª ed., Harper, 2011
KENRICK, D. T.; NEUBERG, S. L.; CIALDINI, R. B, **Social Psychology: Goals In Interactions ALC and REVEL Social Psychology Package**, 6ª ed., Pearson Education , 2014
FEINBERG F. T; KINNEAR T. ; TAYLOR J. ,, **Modern Marketing Research: Concepts, Methods and Cases**, 2ª ed., South-Western College Pub, 2012
HOYER, W. D.; MACINNIS, D. J.; PIETERS, R., **Consumer Behavior**, 6ª ed., Cengage Learning, 2013
KARDES, F.; CLINE T.; CRONEY M. L., **Consumer Behavior Science and Practice.**, 1ª ed., Cengage Learning, 2011

Articles:

REYNOLDS, T. J.; GUTMAN, J.. Laddering theory, method, analysis, and interpretation. **Journal of advertising research**. , v. 28 , n. 1 , p. 11-31 , 1988. ; Available at: <http://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=3&sid=1e22c265-76cf-4828-83ca-274a04b39c47%40sessionmgr102>. Access in: 23 may 2019.
DIBB, S.; SIMKIN, L.. Targeting, segments and positioning. **International journal of Retail and distribution management**. , v. 19 , n. 3 , p. 4-10 , 1991. ; Available at: <https://www.emeraldinsight.com/doi/pdfplus/10.1108/09590559110143800>. Access in: 23 may 2019.

CROSS-CULTURAL MANAGEMENT

Course Load: 80 hours

Course Description:

Culture and corporate culture; cultural intelligence; introduction to international management, CAGE distance framework, organization of MNE activity; dimensions of national culture, Trompenaars' model of national culture differences; managing diversity, stereotyping, prejudice, and discrimination; communicating, negotiating, building trust and resolving conflicts across cultures; working with multicultural groups; expatriates, expatriate adjustment.

Objective:

In an interconnected world, it is not companies that go abroad, it is their people. These people are already overwhelmed with tasks and now they need to interact with other individuals with different cultures. These situations can cause stress, misunderstandings and/or frictions. Besides this, not all of us are good at working effectively in different cultural settings. In order to be successful, what are the aspects that need special attention? Why are they important? How can difficult cross-cultural situations be handled? These are some of the questions that we intend to discuss during this course. At the end of it, we hope that our participants will be better prepared for future work assignments abroad.

Program Content:

- Culture and corporate culture
- Cultural intelligence
- International management: an introduction
- Dimensions of national culture
- Managing diversity
- Cross-cultural communication
- Global teams and conflict resolution
- Challenges of expatriation process

Basic Bibliography:

Books:

HOFSTEDE, G.; HOFSTEDE, G. J.; MINKOV, M., **Cultures and Organizations: Software of the Mind.**, 3ª ed., McGraw-Hill, 2010
TROMPENAARS, F.; HAMPDEN-TURNER, C., **Riding the Waves of Culture: Understanding Diversity in Global Business.**, 3ª ed., McGraw-Hill Education, 2012
THOMAS, D. C.; PETERSON, M. F., **Cross-Cultural Management: Essential Concepts**, 3ª ed., SAGE Publications, 2015

Articles:

KIRKMAN, B. L.; LOWE, K. B.; GIBSON, C. B. A quarter century of culture's consequences: a review of empirical research incorporating Hofstede's cultural values framework. **Journal of international business studies.**, v. 37, n. 3 , p. 285-320 , 2006.

Complementary Bibliography:

Books:

MOLINSKY, A., **Global Dexterity: How to Adapt Your Behavior Across Cultures without Losing Yourself in the Process**, 1ª ed., Harvard Business Review Press, 2013

THOMAS, D. C.; INKSON, K., **Cultural Intelligence: People Skills for Global Business**, 2ª ed., Berrett-Koehler Publishers, 2009

REYNOLDS, S.; VALENTINE, D.; MUNTER, M. M., **Guide to Cross- Cultural Communications**, 2ª ed., Prentice Hall, 2010

LEWIS, R. D., **When Culture Collide: Leading Across Cultures**, 3ª ed., McGraw-Hill Education, 2010

HOUSE, R. J. et al., **Strategic Leadership Across Cultures: GLOBE Study of CEO Leadership Behavior and Effectiveness in 24 Countries.**, 1ª ed., SAGE Publications, 2013

Artigos:

JAVIDAN, M. et al. . Conceptualizing and measuring cultures and their consequences: a comparative review of GLOBE's and Hofstede's approaches. **Journal of international business studies**. , v. 37 , n. 6 , p. 897-914 , 2006.

ADLER, N. J.. Cross-cultural management research: the ostrich and the trend.. **Academy of management review**, . , v. 8 , n. 2 , p. 226-232 , 1983.

DECISION MAKING AND NEGOTIATION

Course Load: 80 hours

Course Description:

Analysis of problem structuring and biases in decision making; Conceptual models and analysis of distributive and integrative negotiations; Comparing strategy and tactics for multiparty negotiations; Self-assessment for decision skills and conflict management.

Objective:

Negotiation is a core management competency. This course presents conceptual models, tactical approaches and self-assessment tools to help one develop negotiation skills. By the end of the course it is expected that each participant has developed his/her ability to successfully negotiate, especially in four aspects: efficacy in achieving results, process efficiency, stress reduction and preservation of personal relationships. Attendance and preparation are mandatory, as well as the readings assigned for each topic.

Program Content:

1. Essentials of Negotiation
2. Preparation and Research – PSS and negotiation dynamics
3. Decision-making process – models and biases
4. Two Party, one issue – Distributive Negotiation
5. Two party, multiple issues – Integrative Negotiation
6. Team negotiation
7. Multiple parties, multiple issues
8. Intra organization negotiations
9. Cross Cultural Negotiation
10. Special topics (social dilemmas, ADRs).

Basic Bibliography:

Books:

FISCHER, R.; PATTON B., **Getting to Yes: negotiating agreement without giving in**, 2ª ed., Imago, 1997

THOMPSON, L. L., **The Mind and Heart of the Negotiator**, 4ª ed., Prentice Hall, 2009

SHELL, G. R., **Bargaining for advantage**, 2ª ed., Penguin, 2006

Complementary Bibliography:

Books:

BAZERMAN, M.; NEALE, M. A., **Negotiating Rationally**, 1ª ed., Free Press, 1992

BAZERMAN, M., **Judgement in Managerial Decision Making**, 6ª ed., John Wiley, 2005

RAIFFA, H., **The Art and Science of Negotiation**, 1ª ed., Harvard University Press, 1985

PFEFFER, J., **Managing with Power**, 1ª ed., Harvard Business School, 1992

LAX, D.; SEBENIUS, J., **3D Negotiation: Powerful Tools to Change the Game in Your Most Important Deals**, 1ª ed., Harvard Business Review Press; 2006

DESIGN THINKING

Course Load: 80 hours

Course Description:

The ability to identify and solve problems is the initial part of the innovation process, which is accomplished when the solutions found are implemented, generating value for the stakeholders involved.

This hands-on discipline uses PBL (Problem Based Learning) with theory and practice of design thinking, a human-centered approach to innovation that combines the needs of people, the possibilities of technology, and the requirements for business success. Students will use creative tools to gather inspiration, generate ideas, make them tangible, and tell stories.

Thus, participants will learn and practice the design thinking method to expand creativity, to gain insights more connected to the real needs of people, and to materialize ideas through prototyping (for products, services or spaces). The theoretical part will be based on recent articles, videos and cases about design thinking and the practical part will be based on real field projects conducted in groups.

Objective:

At the end of the course, students will be able to:

- Identify and generate alternatives to solve contemporary problems.
- Use collaborative techniques and tools to analyze and synthesize the data collected in the field
- Conduct rapid experiments addressing problem-solving as a learning process

Program Content:

- Deep understanding of the customer needs to solve complex problems the post pandemic phase will impose on the market
- Innovation as a driver to generate value in market economy
- New business models
- Human Centered Design: Research, Sense Making, Ideation and Test
- Design Thinking tools - interviewing, observing, data analysis and synthesis to generate insights, opportunities, ideation, idea presentation, collaboration, prototyping and validation, storytelling;
- Field project: identification of an opportunity, proposal of a creative solution, prototyping, storytelling and validation;

Basic Bibliography:

Books:

PINE, J. and GILMORE, J. The Experience Economy. Harvard Business Press, 1999.
KUMAR, V., 101 Design Methods: A Structured Approach for Driving Innovation in Your Organization. 1ª ed., Wiley & Sons, 2013
MARTIN, R. The Design of Business: Why Design Thinking is the next competitive advantage. Boston: Harvard Business Press, 2009

Complementary Bibliography:

Books:

BROWN, T. Design Thinking. Harvard Business Review, 2008.
MARTIN, R. The opposable mind. Boston: Harvard Business School Publishing, 2009.
OSTERWALDER, A.; PIGNEUR, Y. Business Model Generation. NJ: John Wiley e Sons, 2010.
MARTIN B.; HANINGTON B. Universal Methods of Design. MA: Rockport Publishers, 2012
OSTEWALDER, Alexander; PIGNEUR, Yves; BERNARDA, Greg; SMITH, Alan. Value Proposition Design: How to Create Products and Services Customers Want, 1a ed., Wiley, 2014

Articles:

BECKMAN, S.; BARRY, M. Innovation as a Learning Process: Embedding Design Thinking. [S.l.]: California Management Review, 2007.

LIEDTKA, J. Learning to use design thinking tools for successful innovation. Strategy & Leadership . , v. 39 , n. 5 , p. 13-19 , 2011.

BROWN, T.; WYATT, J. Design Thinking for Social Innovation. In: Stanford Social Innovation Review, 2010.

DIGITAL MARKETING

Course Load: 80 hours

Course Description:

The digital economy is entering a new age that presents unprecedented challenges, as well as many opportunities. Technology has changed the ways firms engage in communications with consumers. It has also allowed the storage and analysis of consumer data scalable. The widespread use of mobile phone and tablets has enabled location-based messaging and shared communication. Digital tools, new monitoring tools, and the global emergence of social networking have allowed networked based predictive modeling and new forms of targeting and referral strategies. In that sense, digital marketing is the process by which organizations deploy digital tools, data, channels, and strategies to produce value for their customers.

Objective:

The course is designed to introduce you to the fundamental concepts of digital marketing and to improve your skills in analytical thinking and effective communication. It intends to provide a conceptual and practical structure concerning the use of digital tools and approaches to produce digital marketing strategies. After taking this course, you should be well prepared to formulate and communicate practical solutions to commonly faced digital marketing problems across industries. A summary of course goals is as follows:

1. To introduce the concept of digital marketing.
2. To introduce elements of the digital marketing framework and demonstrate how each element is used strategically.
3. To improve your problem solving and decision-making ability, as well as your ability to communicate your recommendations and solutions through class discussion, case analyses, and presentation.

The course will use reading materials, case study discussions, in-class examples, and exercises as means to apply the principles learned in the lectures and readings to real-world marketing problems. The emphasis of the course will not be on memorizing marketing facts and vocabulary, but rather on systematic critical thinking, reasoned application of underlying principles, and strong quantitative and conceptual analyses.

Program Content:

These topics are subject to change. Initial plans are to cover the following:

1. The context of the digital society: The fourth revolution and the digital landscape.
2. Digital transformation.
3. Marketing 4.0 – from traditional to digital (the connected consumer; the paradox; the 4 C's: segmentation; targeting; pricing; product development in the digital era; the consumer journey in the digital era).
4. Digital marketing: concept and framework.
5. Social media and Social Media Marketing.
6. Content marketing.
7. Digital advertising and promotion: Search advertising (paid search and SEO).
8. Digital marketing metrics (analytics and reporting)

Basic Bibliography:

Books:

SIMON, K., Digital Marketing Strategy: An Integrated Approach to Online Marketing., 1ª ed., Kogan Page Limited, 2016
ROBERTS, M.L.; ZAHAY, D., Internet marketing, integrating online and offline strategies, 3ª ed., Cengage learning, 2016

FARRIS, Paul W.; BENDLE, Neil T.; PFEIFER, Phillip E.; REIBSTEIN, David J., Marketing metrics: 50 + metrics every executive should master, ^a ed., Wharton School Publishing, 2007

Article:

KANNAN, P.K.; LI, H. A.. Digital marketing: a framework, review and research agenda. International journal of research in marketing., v. 34 , n. 1 , p. 22-45 , 2016. ; Available at: <https://www.sciencedirect.com/science/article/pii/S0167811616301550?via%3Dihub>. Access in: 17 feb 2020.

Complementary Bibliography:

Books:

SHIH, Clara Chung-wai, The Facebook era: tapping online social networks to market, sell and innovate, 2^a ed., Prentice Hall, 2011

TAPSCOTT, Don; WILLIAMS, Anthony D., Wikinomics: how mass collaboration changes everything, ^a ed., Portfolio, 2007

STONE, Bob; JACOBS, Ron., Successful direct marketing methods: interactive, database, and customer-based marketing for digital age, ^a ed., Mc Graw Hill, 2008

WUYTS, Stefan; DEKIMPE, Marnik G.; GIJSBRECHTS, Els; PIETERS, Rik (Ed.), The connected customer: the changing nature of consumer and business markets, ^a ed., N.Y.: Routledge, 2010

MOHAMMED, Rafi A., Internet marketing: building advantage in the networked economy, 2^a ed., McGraw-Hill/Irwin , 2004

Articles:

Kanuri, Chen, Shrihari Hari Sridahar. Scheduling content on social media: theory, evidence and application. Journal of Marketing., v. 82, p. 89-108, 2018.

Kumar, Bezawada, Rishika, Janakiram and Kanna. From social to sale: the effects of firm-generated content in social media and consumer behavior. , v. 80 , p. 7-25 , 2016.

GLOBAL CITIES

Course Load: 80 hours

Course Description:

Rapid urbanization in both the developed and less developed world, combined with recent trends towards globalization and fiscal decentralization, has put enormous pressure on large cities and city-regions. As urban populations grow, large cities struggle to provide basic services (e.g. housing, water, sanitation, public safety, transit) and address the negative externalities associated with rapid growth (e.g. pollution and congestion).

In the early 21st century, despite economic development and growth around the world, urbanization is most often associated with informal occupations and precarious modes of life, due to lack of services provision, poor transportation and infrastructure, and mismanagement. Yet, urban areas are seen as vibrant, diverse and desirable places to live, work and visit and are seeing a wave of revitalization not seen in many decades.

The way of living and surviving in cities across the world can be described in different ways: through the decline of the industrial economy, the offshoring of work, the creation of network cities, and the emergence of "global cities." Public and private sector alike, such as policy makers and real estate developers, have to deal with the global issues and economic crisis at the city level, and try to devise new, smarter, and safer solutions to make life in cities better. This course will set out a basic economics and public management framework to understand the problems faced by cities and use it to evaluate the issues and challenges they endure. It also addresses some of the promises and dilemmas of creating and managing the space where we live, work and produce, through a number of best practices studies, which suggest that there is a smart and best way to impact the places we live.

Objective:

The students will be able to understand and criticize current problems in large cities. It is expected that the students will be able to evaluate urban realities in different contexts, both domestically and internationally.

The students will be able to:

- To understand the key issues about urbanization;
- To analyze different aspects of cities, large and small, and discuss the differences between megacities, global cities, and smart cities;
- To apply basic principles for analysis of large cities and metropolitan regions in countries with diverse political, institutional, and cultural contexts; and
- To evaluate the practice of urban governance.

Program Content:

1. Urbanization Overview
 - a. Concepts of Cities
 - b. Cities in a World Economy
 - c. Patterns of Urban Growth
 - d. Rankings and Classifications
2. The economics approach to Cities
 - a. Urban Public Economy
 - b. Local Government Expenditures
3. Governing Global, Mega, Worldly, and Smart Cities
 - a. Global Cities
 - b. Large Metropolitan Areas
 - c. Competitive Cities
4. Financing Cities

- a. Taxes
 - b. Alternative Revenues
 - c. Financing Cities, Metropolitan and Large Areas
 - d. Fiscal Federalism
5. The City as a Growth Machine
- a. Recession and the future of cities
 - b. City Business
6. The Triumph of Cities? Sustainability and Survival

Basic Bibliography:

Books:

Glaeser, Edward. 2011. *The Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier* Penguin Press

Jacobs, Janet. 1969. *The Economies of Cities*.

Sassen, Saskia. 2006. *Cities in a World Economy*, Third edition, Pine Forge Press.

Ferrer, Jorge Núñez (ed.) 2013. *Financing models for smart cities*. Smart Cities Stakeholder Platform.

Complementary Bibliography

Books:

Amen, Michael M., Kevin Archer, M. Martin Bosman (ed). 2006. *Relocating Global Cities: From the Center to the Margins*. Rowan and Littlefield Publishers. New York.

AT Kearney. 2015. *Global Cities 2015. The Race Accelerates*.

Brenner, Neil, and Roger Keil (ed.) 2006. *The Global Cities Reader*. Routledge. London.

Detter, Dag and Stefan Folster. 2017. *The Public Wealth of the Cities. How to Unlock Hidden Assets to Boost Growth and prosperity*. Brookings Institution Press. Washington, D.C.

World Bank. 2013. *Planning, Connecting, and Financing Cities—Now. Priorities for City Leaders* International Bank for Reconstruction and Development / The World Bank. Washington, D.C.

Articles:

Alm, James. 2010. "Municipal Finance of Urban Infrastructure: Knowns and Unknowns." Wolfensohn Center for Development, Working Paper 19, May 2010 (http://www.brookings.edu/~media/research/files/papers/2010/5/urbanization%20finance%20alm/05_urbanization_finance_alm).

Clark, Greg 2016. *Global Cities: A Short History*. Brookings Institution Press.

OECD. 2006. *Competitive Cities in the Global Economy*, OECD Territorial Reviews. Paris: OECD. (http://www.mexicodiplomatico.org/lecturas/competitive_cities_global_economy.pdf)

United Nations. 2017. *The World's Cities in 2016*. Washington http://www.un.org/en/development/desa/population/publications/pdf/urbanization/the_worlds_cities_in_2016_data_booklet.pdf

Mumford, Lewis, 1968. *The City in History: Its Origins, Its Transformations, and Its Prospects*.

O'Sullivan, Arthur. 2012. *Urban Economics*, Eighth Edition, McGraw-Hill Irwin

INTEGRATED MANUFACTURING PLANNING

Course Load: 80 hours

Course Description:

The Lifecycle of a Product Approach for Integrate the Manufacturing Management Process: Life Cycle Management; Manufacturing Processes Planning; Concurrent Engineering; Computer-Integrated Manufacturing; Production Planning and Control Systems (ERP, MRP and MES); Lean Manufacturing Principles; Digital Twin for Manufacturing Processes.

Objective:

By completion of the program, students will be able to:

1. Understand the Product Lifecycle Management (PLM) approach for the application of Computer-Integrated Manufacturing;
2. Apply Manufacturing Processes Planning Techniques for evaluation and planning of Manufacturing Systems;
3. Evaluate the benefits of using Digital Twin approach for the design of a Manufacturing System;
4. Identify the trends and advances for the Manufacturing Planning and Control.

Program Content:

1. Overview of Manufacturing:
 - a. Manufacturing Operations;
 - b. Metrics and Economics;
2. Overview of Operations Management:
 - a. Operations Management;
 - b. Operations Performance;
 - c. Operations Strategy.
3. Manufacturing Systems:
 - a. Overview of Manufacturing Systems;
 - b. Single-station manufacturing cells and Manual Assembly Lines;
 - c. Automated Production Lines and Automated Assembly Systems;
 - d. Group Technology and Cellular Manufacturing;
 - e. Flexible Manufacturing Cells and Systems;
4. Manufacturing Support Systems:
 - a. Product Design and CAD/CAM in The Production System;
 - b. Process Planning and Concurrent Engineering
 - c. Production Planning and Control Systems;
 - d. Just-in-time and Lean Manufacturing
5. Application of Digital Twin for Manufacturing System Design:
 - a. Overview of Simulation of Discrete Events Systems;
 - b. Simulation of Manufacturing System;
 - c. Use of Plant Simulation for Manufacturing Design.

Basic Bibliography:

Books:

1. GROOVER, M. P.; JAYAPRAKASH, G. Automation, production systems, and computer-integrated manufacturing. 4 ed. London: Pearson, 2015
2. CHASE, Richard B.; AQUILANO, Nicholas J.; JACOBS, F. Robert. Production and operations management : manufacturing and services. 8. ed. Boston, Mass.: McGraw-Hill, 1998. 889 p. 9780075612780
06/2020

3. MEYER, Heiko (Edit.). Manufacturing execution systems: optimal design, planning, and deployment. [1st ed.]. New York, NY: McGraw Hill Education, 2009. xix, 248p. ISBN 9780071623834 (enc.).

Articles:

1. D. Mourtzis, M. Doukas, D. Bernidaki, Simulation in Manufacturing: Review and Challenges, Procedia CIRP, Volume 25, 2014, Pages 213-229, ISSN 2212-8271, <https://doi.org/10.1016/j.procir.2014.10.032>.

(<http://www.sciencedirect.com/science/article/pii/S221282711401063>)

Complementary Bibliography

Books:

1. KALPAKJIAN, Serope; SCHMID, Steven R. Manufacturing engineering and technology. 7th ed. Upper Saddle River: Pearson, c2014. 1180 pages ISBN 9780133128741 (enc.)

2. GORCHELS, Linda. The product manager s handbook. 4th ed. New York: McGraw-Hill, 2012. 392 p. ISBN 9780071772983 (enc.)

3. HARRELL, Charles; GHOSH, Biman K.; BOWDEN, Royce. Simulation using Promodel. 2nd ed. Boston: McGraw-Hill, 2004. 733 p. ISBN 9780072482638 (enc.).

4. LIKER, Jeffrey K. The Toyota way: 14 management principles from the world's greatest manufacturer. New York: McGraw-Hill, c2004. xxii, 330 p. ISBN 9780071392310 (enc.).

5. WALLACE, Thomas F. MRP II: making it happen ; the implementers guide to sucess with manufacturing resource planning. 2. ed. New York, N.Y.: John Wiley, 1990. 314 p. ISBN 047113225x (enc.).

Articles:

1. Werner Kritzinger, Matthias Karner, Georg Traar, Jan Henjes, Wilfried Sihm, Digital Twin in manufacturing: A categorical literature review and classification, IFAC-PapersOnLine, Volume 51, Issue 11, 2018, Pages 1016-1022, ISSN 2405-8963, <https://doi.org/10.1016/j.ifacol.2018.08.474>.

INTRODUCTION TO QUANTUM COMPUTING

Course Load: 80 hours

Course Description:

Quantum Computing is an unconventional computing model, where the concept of data entanglement is explored to reduce processing time and storage space, as well as increase security in message exchanges on computer networks. Although the concept of Quantum Computing is very old (1975), only with the advent of large quantum machines (IBM and Google), simulated and real environments for implementing quantum programs could be made available. This course introduces the fundamental concepts of Quantum Computing such as Quantum Processing Units (QPU), quantum gates, fundamental algorithms such as prime factorization, going through searches in unordered databases to sophisticated schemes such as Quantum Machine Learning. This course has a very extensive practical basis, carried out on the IBM Quantum Experience machine.

Objective:

- Understand the logic gates needed to build quantum algorithms
- Understand the main technologies for implementing quantum processors, especially those based on superconductivity close to absolute zero
- Propose algorithms for solving complex computing problems, such as NP-complete and NP-difficult problems
- Implement and simulate / run quantum programs on commercial quantum machines (IBM Quantum Experience), both in Quantum Assembly and Python
- Participate effectively in a team to apply and develop quantum algorithms/programs

Program Content:

Qubits, QPUs and their implementation technologies. Single qubits. Multiple qubits. Qubit teleportation. QPU arithmetic and logic. Quantum languages. Amplitude amplification. Quantum Fourier Transform. Quantum Phase Estimation. Quantum search. Quantum supersampling. Shor's Factoring Algorithm. Quantum Machine Learning.

Basic Bibliography:

Books:

1. JOHNSTON, E.R., HARRIGAN, N., GIMENO-SEGOVIA, M. Programming Quantum Computers: Essential Algorithms and Code Samples. New York: O'Reilly, 2019.
2. SILVA, V. Practical Quantum Computing for Developers: Programming Quantum Rigs in the Cloud using Python, Quantum Assembly Language and IBM QExperience. New York: Apress, 2018.
3. WOLF, R. Quantum Computing: Lecture Notes. Available at: <https://arxiv.org/abs/1907.09415>.

Articles:

1. RIEFFEL, E. An Introduction to Quantum Computing for Non-Physicists. Available at: <https://arxiv.org/pdf/quant-ph/9809016.pdf>.

Complementary Bibliography:

Books:

1. DRUMMOND, B. Understanding Quantum Mechanics. Available at: <https://arxiv.org/abs/2001.03306>.
2. HIDARY, J.D. Quantum Computing: an Applied Approach. New York: Springer, 2019.
3. MERMIN, N.D. Quantum Computer Science: an Introduction. Boston: Cambridge University Press, 2017.

4. MORAN, C.C. Mastering Quantum Computing with IBM QX: Explore the world of quantum computing using the Quantum Composer and Qiskit. New York: Packt Publishing, 2019.
5. OSSORIO-CASTILLO, J. Quantum Computing from a Mathematical Perspective. Available at: <https://arxiv.org/abs/1810.08277>.

Articles:

1. PERRY, A. Quantum Computing as a High Scholl Module. Available at: <https://arxiv.org/abs/1905.00282>.

PARTICIPATORY DESIGN FOR HUMANITARIAN DEVELOPMENT

Course Load: 40 hours

Course Description:

The Participatory Design for Global Humanitarian Development class delves into an evidence-based, innovation-driven, problem-solving approach called Participatory Design. It aims to introduce, define, and compare the different types of participatory design in an international humanitarian context: human-centered design, co-design, and user-generated design.

The class will present a step-by-step process to engage Bottom of the Pyramid (BoP) stakeholders in co-design. Students will learn and practice tools and techniques for establishing the proper mindset, exploring and framing problems, generating and evaluating ideas, as well as prototyping through sketch-modeling. Each week, students will engage in hands-on activities to apply these tools and techniques to a real project in a global underdeveloped context.

Objective:

- Define Participatory Design and its components in the context of global development
- Distinguish between the types of Participatory Design and the contexts in which each may be most useful
- Recognize and mitigate the power dynamics and barriers that may impact the innovation process
- Apply frameworks and tools of Participatory Design process among diverse stakeholders to solve real global humanitarian problems

Program Content:

Introduction + UNICEF Project Overview

Definition and clarification of participatory design and its mindset

Definition and clarification of the 3 different types of participatory design

Participatory Design Challenge

Participatory design process

Participatory design matrix

Respectfully gathering and sharing Information

Framing the problem as a team

Inclusive Techniques for generating ideas

Concept Selection

Sketch modeling Part I - Ideating

Sketch modeling Part II - Experiencing

Sketch modeling Part III - Pre prototyping

User Feedback

Choose your own adventure

Beyond Participatory Design: Local Innovation Ecosystems

Basic Bibliography:

Books:

1. Hopper, Paul. Understanding Development - Issues and Debates
2. Groupe URD. Participation Handbook for Humanitarians field workers, 2009.
3. Brown, Tim. Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, New York: HarperBusiness, 2009.

Basic Bibliography Article(s):

1. MIT D-Lab Case Study - Aguajira: The Practice of Co-design for Technology Transfer

2. Hoffecker, Elizabeth. *The Lean Research Framework: Principles for Human-Centered Field Research*, 2015
3. Byrne, E. (2006) *Participatory Design for Social Development: A South African Case Study on Community-Based Health Information Systems*. *Information Technology for Development*, Vol. 13 (1) 71–94 (2007)
4. IDEO.org. *Field Guide to Human-Centered Design*, 2015
5. Byrne, E. (2004) *Development through communicative action and information system design: A case study from South Africa*. *South African Computer Journal*, 32, 25–33.

Complementary Bibliography:

Books:

1. Britton, Garth. *Co-design and Social Innovation: Connections, Tensions and Opportunities*, 2019.

Complementary Bibliography Article(s):

1. Chambers, R. (1997). *Whose reality counts? Putting the first last*. Richmond, Surrey, U.K.: Intermediate Technology Publications.
2. Cleaver, F. (2002). *Institutions, agency and the limitations of participatory approaches to development*. In B. Cooke & U. Kothari (Eds.), *Participation: The new tyranny* (pp. 36–55). New York: Zed Books.

SUSTAINABLE DESIGN

Course Load: 80 hours

Course Description:

Sustainable product design. Green design principles, methods and materials. Life cycle assessment tools. Product service system strategies. System perspective.

Objective:

The student will be able to:

- 1) Learn about the impacts people are having on the natural environment
- 2) Analyze environmental impact of different products and activities
- 3) Learn and apply principles that govern sustainability to hands-on practical case studies
- 4) Propose recommendations and strategies to decrease environmental impact of activities or products

Program Content:

- 1) Understanding environmental impacts: ecological damage, human health damage, resource depletion
- 2) Understanding an activity or experience: delineate user experience, describe needs addressed, quantify usage patterns
- 3) Assess activity's impact: Life-cycle assessment, consumption behavior, product reverse engineering
- 4) Reimagining activity: generate ideas for redesigning activity or experience and develop systems concepts approaches for new ideas
- 5) Sustainability Strategies: eco-design strategies, framing strategies
- 6) Systems Strategies: leverage points, product-service systems
- 7) Communicating sustainability

Basic Bibliography:

Books:

WHITE, P., **Okala Practitioner: Integrating Ecological Design**, ^a ed., Okala Team, 2013
CARSON, R., **Silent Spring**, ^a ed., Houghton Mifflin Company, 2002
MANZINI, E., VEZZOLI, C., **Product-Service Systems and Sustainability**, ^a ed., United Nations, 2000

Articles:

HARDIN, G.. The tragedy of the commons. **Science**, v. 162, n. 1243-1248, 0. ; Available at: <http://www.sciencemag.org/content/162/3859/1243.full.pdf>. Access in: 23 may 2019.

Complementary Bibliography:

Books:

McDONOUGH, W.; BRAUNGART, M., **Cradle to Cradle: Remaking the way we make things**, 1^a ed., North Point Press, 2002
BROER, M., LEON, W., **The Consumer's Guide to Effective Environmental Choices: Practical Advice from The Union of Concerned Scientists**, ^a ed., Harmony, 1999
RANDERS, J., **2052: A Global Forecast for the Next Forty Years**, ^a ed., Green Publishing, 2012
BENYUS, J.M., **Biomimicry: Innovation Inspired by Nature**, ^a ed., Harper Perennial, 2002
MEADOWS, D.H., RANDERS, J., MEADOWS, D.L., **Limits to Growth: The 30-Year Update**, ^a ed., Chelsea Green Publishing, 2004

Articles:

WORLD WIDE FUND FOR NATURE. Living planet report. . , 2016. ; Available at: http://awsassets.panda.org/downloads/lpr_living_planet_report_2016.pdf. Access on: 23 may 2019.

TECHNOLOGICAL INNOVATION

Carga Horária Total: 80 hours

Course Description:

This course is of a practical nature. Students are expected to take active participation in it. The course includes subject matter presentations by the professor, followed by discussions in small groups. Preparation for the classes, with pre-readings and online research is an essential part of this course.

Students are supposed to keep a weekly "innovation case" log book, a practice that will help them exercise one systematic prospection strategy that may be used in finding and understanding technological innovation opportunities in everyday life.

Students will also present business innovation cases they will have prepared along during the course. Active participation in all these activities is a key component of the final grade of the student.

The subject matter expositions will introduce theoretical content to students. This content may have been previously introduced to students via pre-readings and video materials illustrating the points to be discussed. All discussions are contextualized in real-life cases, and feasible business scenarios.

Grading will be based on the performance of students in: 1) the creation of individual logbooks on technology innovation cases along the semester, 2) the quality of the dissertation in their mid-term exam, and 3) the writing and presentation (in groups) of a business case or an opportunity file (ex. a discussed Business Model CANVAS) of an existing technological company. The case study should emphasize the impact of innovation, be it in creating economic value, social value, cultural value, etc.

For both works, part of the activities will happen in-class (discussions, status reports) and part off-class (follow up, mentoring, research, group discussions and document preparation).

Main emphasis of the course is on:

- In-class workshop-like discussions and off-class mentoring, research & group work
- Correlation of the subject matters learned in this class with those of courses taught in other disciplines in Business Management at INSPER
- Presentation and discussion of real-life technology firms
- Preparation and discussion of students work in class, forcing course participants to share knowledge learned, acid-test concepts and suppositions
- and gain a clear sense for the challenges and dilemmas faced by technology entrepreneurs
- Intense preparation by participants
- Bi-weekly evolution gauging of each student's log book research work and preparation of case study / business model opportunity file with the professor.

Objective:

The outline content of the course is based on the book from Byers, Thomas H. et al. 2011. Technology Ventures, From Idea to Enterprises. McGrawHill. 680 p. The readings, videos, support materials and class activities will all be in English. Students will be asked to create their log books and case studies in English. Presentation materials (PPTs), along with any other ancillary support materials, will also be in English. Students will not be evaluated on their proficiency level or correctness of their English, but rather on the content of the material presented. A minimum English level will be required to convey the intended content. Due to the high level of international attendance of this course, it is suggested that students use mostly English to interact either in in-class and off-class activities.

- Recognize the importance of strategy in regards to the creation and capture of value.
- Identify value creation phenomena in different sectors, from the more traditional ones (energy, infrastructure, agribusiness) to the ones axed on or impacting the economy of knowledge (IT, e-commerce, social networks),

- Depict a company in regards to its positioning before innovation waves, in particular sectors (innovation networks)
- Perceive the transformation factors underlying an industrial sector, and the role played by national mechanisms that support innovation and value creation via innovation.
- Sense the importance of intellectual property and mechanisms to protect it.
- Explain business models used in technology ventures, along with the role of venture capital in their financing.
- Analyze real case scenarios of technology ventures successes and failures, becoming capable of explaining the underlying factors responsible for those outcomes

Program Content:

The outline content of the course is based on the book from Byers, Thomas H. et al. 2011. *Technology Ventures, From Idea to Enterprises*. McGraw-Hill. 680 p.

The readings, videos, support materials and class activities will all be in English. Students will be asked to create their log books and case studies in English. Presentation materials (PPTs), along with any other ancillary support materials, will also be in English. Students will not be evaluated on their proficiency level or correctness of their English, but rather on the content of the material presented. A minimum English level will be required to convey the intended content. Due to the high level of international attendance of this course, it is suggested that students use mostly English to interact either in in-class and off-class activities.

Basic Bibliography

Books:

Byers, Thomas H., **Technology Ventures, From Idea to Enterprises**, 1ª ed., McGraw-Hill, 2011

Christensen, Clayton M., **The Innovator's Dilemma**, Harper Business Essentials, 1ª ed., , 2002
Utterback, James M., **Mastering the Dynamics of Innovation**, 1ª ed., Harvard Business School Press, 1996

Complementary Bibliography

Books:

Davenport, Thomas H., **Process Innovation**, 1ª ed., Harvard Business School Press, 1993

Drucker, Peter F., **Innovation and Entrepreneurship**, 1ª ed., Harper and Row, 1968

Gruelken, Wolfgang, **Lessons in Radical Innovation**, 1ª ed., Prentice Hall, 2002

Tidd, Joe, Bessant, John e Pavitt, Keith, **Managing Innovation**, 1ª ed., Wiley, 2001

Tushman, Michael L., e O'Reilly Charles A. III, **Winning Through Innovation**, 1ª ed., Harvard Business School Press, 1997

VALUE CHAIN AND BUSINESS ECOSYSTEMS MANAGEMENT

Course Load: 80 hours

Course Description:

Competitive advantage, value creation, profitability pools, relative cost and relative price position, business management, value chain, supply and demand management, industry structure, firm resources and capabilities, activity systems, new venture/innovation, product design and production, business concepts and models, logistics, supply chain management, inter-firm coordination, business ecosystems structure, nodal advantage and strategies.

Objective:

By completion of the program, students will be able to:

- Understand value creation, competitive advantage and profitability sources of a firm;
- Analyze firm-level value chains to develop competitive advantage and improve profitability;
- Practice venture/innovation value chains to develop a new product;
- Recognize global and local industry-level value chains to design competitive supply-chains;
- Understand competition in a networked economy and leveraging business ecosystems;

Students will build from these concepts and practice to have an integrative perspective of business development and management.

Program Content:

The course Value Chain and Business Ecosystems Management evolves from the concept of value chains, initially defined by Porter (1985) to business ecosystems, first defined by Moore, 1993 and more recently leveraged to overcome output-centric industry definitions in a networked economy. The underlying logic is to provide value chain/ecosystems management tools and to the extent possible, practice them through cases, exercises and a group project involving venture/innovation value chains in the design of a new product.

The course starts with an introduction to value creation, competitive advantage and profit pools, involving analysis of relative price and relative cost to relate the value chain and the business P&L. Then, the course unfolds in three main parts with different time dedication: the first one, firm-level value chains offers an integrative perspective of business management including its supply side (sourcing, inbound logistics, technology and production management), demand side (sales, marketing, distribution and revenue) and the value side (profit, cost and value-based management), from a strategic, planning and operations perspective. Students will develop a product design/production group project to experience the venture/innovation value chain within a firm, leveraging our FabLab and TechLab facilities.

The second part, industry-level value chains, builds on the extended enterprise concept to design differentiated supply chains (first defined by Keith Oliver, 1982). Competition is not anymore restricted to one firm but in how they interact/coordinate with anterior (suppliers) and posterior (clients) firms in their value chain, i.e. supply-chains are designed to link firm-level value chains from raw material producers to the delivery of final products to clients. Different cases and recent trends are going to be used to discuss tools and approaches to supply chain management.

Finally, the third part of the course discusses business ecosystems from its definition by Moore (1993) as a parallel to nature ecosystems evolution and dynamic characteristics, to recent strategies to build and compete with ecosystems from competitive advantage of a firm to nodal advantage in an ecosystem (Kumar et al, 2015). Case discussion and experiencing ecosystems among the groups in the venture/innovation value chain groups in the first part will be used to apply the concepts and ideas of business ecosystems.

Basic Bibliography:

Books:

SHAPIRO, J., **Modeling the Supply Chain (Duxbury Applied)**, 2ª ed., Cengage Learning, 2006

MOORE, James F., **The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems**, 1ª ed., Harper Paperbacks, 1997

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