

Faculty	Faculty of Engineering		
Program	B.Sc. in Civil Engineering	Required	
	B.Sc. in Computer Engineering	Required	
	B.Sc. in Electrical-Electronics Engineering	Required	
	B.Sc. in Industrial Engineering	Required	
	B.Sc. in Mechanical Engineering	Required	
Semester	Fall 2017-2018		

Course Code	ENTR 400			
Course Title in English	Business Skills and Entrepreneurship			
Course Title in Turkish	İşletme Becerileri ve Girişimcilik			
Language of Instruction	English			
Type of Course	Flipped Classroom, Lecture			
Level of Course	Undergraduate			
Semester	Fall			
Contact Hours per Week	Lecture: 3	Recitation:	Lab:	Other:
Estimated Student Workload	135 hours per semester.			
Number of Credits	5 ECTS			
Grading Mode	Standard Letter Grade			
Pre-requisites	None			
Expected Prior Knowledge				
Co-requisites	None			
Registration Restrictions	Only Undergraduate Students			
Overall Educational Objective	To learn the main topics related with entrepreneurship, to form a knowledge base about founding a new venture, to think about, discuss and present one's own start-up ideas in the classroom environment.			
Course Description	The course mainly focuses on introducing the students with the experience of creating and growing new ventures as well as finding creative ways to start ups' challenges, by analyzing real life examples and meeting with start-up founders in person. Throughout the course, the students will be working individually or in groups on "how to start a start-up from scratch" by focusing on their own ideas of a new product, service or process and will learn to present their start up ideas by using a business model canvas. At the end of the semester, they will make presentations for pitching those ideas in the classroom. As entrepreneurship is a career opportunity for students coming from a broad range of disciplines, the course will not be limited to students of Business and Economics only. Instead, the students with the basic knowledge on business related concepts will be able to attend the course.			
Course Description in Turkish	Bu ders esas olarak öğrencilerin yeni girişim yaratma ve büyütme deneyimlerine odaklı olarak tasarlanmıştır. Ayrıca, ders içeriğinde yeni girişimlerin hayatta kalma ve büyüme yolunda karşılaştıkları problemler de gerçek hayattaki örnekler ışığında detaylı olarak incelenecektir. Dönem boyunca öğrenciler, "Bir girişim fikri ilk adımından itibaren nasıl bulunur ve geliştirilir?" sorusuna, kendi ürün, hizmet veya süreç yaratımı ile ilgili yeni girişim fikirlerini mercek altına alınarak yanıt arayacaklardır. Bu noktada, öğrenciler tarafından bulunacak yaratıcı girişim fikirleri, iş modeli kanvası kullanılarak sınıfta sunulacaktır. Girişimcilik kariyerine özellikle son yıllarda artan oranlarda her disiplinden öğrencinin ilgi göstermesinden dolayı, sadece işletme veya ekonomi alanından değil, genel işletme kavramlarına hakim olan farklı disiplinlerden öğrenciler de katılabileceklerdir.			

Course Learning Outcomes and Competences	Upon successful completion of the course, the learner is expected to be able to: 1. describe the key concepts and steps of new venture creation process; 2. formulate his/her own way of creative thinking; 3. design a business model from scratch; exhibit the required generic competencies (design, experiment, iterate) to create and activate a start-up; 4. describe how venture capital business models work and differentiate in different stages.		
Relationship of the Course with the Student Outcomes	Level	Learning Outcome(s)	Assessed by
Program Outcomes	N=None S=Supportive H=High		Exam, Project, HW, Experiment, Presentation, etc.
(a) an ability to apply knowledge of mathematics, science, and engineering			
(b) an ability to design and conduct experiments, as well as to analyze and interpret data			
(b)-1. an ability to design/develop an experiment by identifying required assumptions, constraints, data collection methods and models	H	3,4	Prototype
(b)-2. Implement experimental procedures to conduct an experiment and use engineering judgment to draw conclusions			
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	H	1,2,3,4	HW1, HW2, HW4, HW7-HW13, Midterm, Prototype
(d) an ability to function on multidisciplinary teams			
(d)-1. Function effectively on a intradisciplinary team (d)-2. Function effectively on a multidisciplinary team	H	2,3,4	HW4-HW13, Prototype, Final
(e) an ability to identify, formulate, and solve engineering problems			
(f) an understanding of professional and ethical responsibility			
(g) an ability to communicate effectively			
(g)-1. Communicate effectively with well-organized written documents	H	2,3,4	HW1,HW3, Prototype, Final
(g)-2. Communicate effectively verbally with a range of audiences	S	2,3,4	HW17, Final
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context			
(i) a recognition of the need for, and an ability to engage in life-long learning	S	1,2	HW1, HW2
(j) a knowledge of contemporary issues			
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	H	4	HW13, Prototype
Prepared by and Date	Murat Tortopoğlu, 26.12.2017		
Semester	Spring 2017-2018		

Name of Instructor	Murat Tortopoğlu	
Course Contents	Week	Topic
	1.	<p>What is:</p> <ul style="list-style-type: none"> - Business - Entrepreneurship - Venture Creation <p>How do we compare Businesses?</p> <ul style="list-style-type: none"> - Financially – Introduction to Income Statement and Balance Sheet - Business Model wise, Introduction to Business Models <p>How do customers compare and make purchase decisions?</p> <ul style="list-style-type: none"> - Introduction to Jobs to Be Done concept
	2.	<p>How do we measure performance of a company?</p> <ul style="list-style-type: none"> - Quantitative Analysis (ratio analysis – key ratios: current, roe, d/e, p/e) <p>How do we measure performance of a company?</p> <ul style="list-style-type: none"> - Qualitative Analysis: Business Model and Competitive Advantage <p><i>Homework1: Pick 2 different companies (in the same sector, Pick a sector related with your degree) that are listed on NASDAQ. Compare 2 companies. (Individual-3)</i></p>
	3.	<p><i>Why should we start a company?</i></p> <p><i>How can we find ideas?</i></p> <p><i>How can we turn ideas into products than to businesses?</i></p> <p><i>How can we fund a company?</i></p> <ul style="list-style-type: none"> - Grants - Cost of Loan/Borrowing money from a bank - Bootstrapping - Crowdfunding - Angel Investors - Venture Capital - Private Equity - IPO <p><i>Homework2: Next week students will present different type of venture capital business models. Students will focus on the key parts of the business models which differentiates and help business to sustain. Presentations will be uploaded to youtube.com, max presentation time is 3 minutes and links will be shared with entire class). Students can pick a company representing below business models and present their biz model. (Individual - 3)</i></p> <ul style="list-style-type: none"> - Incubator Business Model - Accelerator Business Model - Crowdfunding Business Model <ul style="list-style-type: none"> o Rewards-based crowdfunding o Donation-based crowdfunding o Equity crowdfunding o Debt/Lending crowdfunding - Angel Investor Business Model - Investment Club Business Model - Super Angel Investor Business Model - Seed Stage Venture Capital Business Model - Early Stage Venture Capital Business Model - Late Stage Venture Capital Business Model - Corporate Venture Capital Business Model - Private Equity Business Model - Mobile Gaming Business Model - Mobile App Business Model - Ecommerce Business Model - SAAS Business Model - Content (Media) Business Model - User Generated Content Business Model - Two Sided Market Place Business Model <p><i>Homework3: Submit your business idea (team of 2 or 3, - 1.5)</i></p>
	4.	<p>Business Model Generation (Workshop)</p> <ul style="list-style-type: none"> - Business Model Canvas - Value Proposition Canvas <p><i>Homework4: Submit your Initial Business Model on Business Model Canvas and Value Proposition Canvas. Research competition, list alternative products and</i></p>

		<p>services. (team – 1.5)</p> <p><i>Homework: 5) Make 3-5 real customer interviews. Submit your learning and reflection on Business Model Canvas and Value Proposition Canvas (BMC and VPC). (team – 3)</i></p>
	5.	<p>Problem definition (Whole class as a workshop)</p> <ul style="list-style-type: none"> - Jobs to Be Done Framework - Define the Customer - Define the JTBD - Uncover Customer Desired Outcomes (job map) - Customer discovery interview questions (outcome statements) <p>Value Proposition (Workshop)</p> <ul style="list-style-type: none"> - Customer Segmentation and unmet need clarification - Define Value Proposition - Competitive Analysis - Innovation Strategy Formulation <p><i>Homework: 6) Make 3-5 real customer interviews. Submit your learning and reflection on BMC and VP (team – 3)</i></p> <p><i>Homework: 7) Submit your Jop Map and desired outcome statements (team – 1)</i></p> <p><i>Homework: 8) Submit your Vision Statement, Long term product strategy, VP, market positioning, feature set (team – 2)</i></p>
	6.	<p>Defining Business Model Environment (Workshop)</p> <p>Understand the environment that shapes the business models:</p> <ul style="list-style-type: none"> - Key trends - Market Forces - Industry Forces - Macro-Economic Forces - Market Size <p><i>Homework: 9) Make 3-5 real customer interviews. Submit your learning and reflection on BMC and VP (team – 3)</i></p> <p><i>Homework: 10) Submit your Business Model and its environment (Market Research). (team – 3)</i></p>
	7.	<p>Revenue Model Generation (Workshop)</p> <ul style="list-style-type: none"> - Revenue Model - Customer Acquisition and retention <p><i>Homework: 11) Make 3-5 real customer interviews. Submit your learning and reflection on BMC and VP (team – 3)</i></p> <p><i>Homework: 12) Submit your 3 year sales/cost projection and related projected Income Statement (team -2)</i></p>
	8.	<p>Solution Design (Workshop)</p> <ul style="list-style-type: none"> - Key use case definition - Solution Experience Design <p><i>Homework: 13) Submit your solution design on key use case. Wireframe, mock up etc. (team – 4)</i></p>
	9.	<p>Testing Business Models (Workshop)</p> <ul style="list-style-type: none"> - Minimum Viable Product - Experiment Design - Prototyping - Lean Startup Cycle (product development) <p><i>Homework: 14) Submit your MVP plan. (team-2)</i></p>
	10.	Midterm
	11.	<p>Managing Startups</p> <ul style="list-style-type: none"> - Students update on MVP traction - Key Metrics for different types of business models - Customer Acquisition Tactics <p><i>Homework: 15) Bring customers to your MVP and submit your MVP traction. (will not be graded) (team-3)</i></p>
	12.	<p>Managing Startups</p> <ul style="list-style-type: none"> - Students update on MVP traction - Funding Startups - Investor Pitching <ul style="list-style-type: none"> o High Concept Pitch o Elevator Pitch o Pitch Deck - Financial Modeling <p><i>Homework: 16) Continue testing and iterating your experiment and submit</i></p>

		<i>traction report (team -3)</i>
	13.	<p>Managing Startups</p> <ul style="list-style-type: none"> - Key Financial Metrics for startups - Product Management <p>Technology Commercialization</p> <p><i>Homework: 17) Submit your draft final presentation. (team -3)</i></p>
	14.	<p><i>Workshop (final presentation preparation)</i></p> <p><i>Students pitch their presentations and receive feedback</i></p>
	15.	<p><i>Final Presentations</i></p> <p><i>Grading:</i></p> <ul style="list-style-type: none"> - <i>Problem-Solution Fit Validation</i> - <i>Business Model Fit</i> - <i>Market Analysis</i> <ul style="list-style-type: none"> o <i>Market Size</i> o <i>Customer Need</i> o <i>Alternatives and Competitive positioning</i> - <i>Financial Viability</i> - <i>Customer Interviews</i> - <i>Prototype</i> - <i>Traction</i> - <i>Story Telling</i>
	16.	<i>Final Presentations</i>
Required/Recommended Readings	<p>The reading materials (notes, files, etc.) for each session will be uploaded to blackboard. The information about accessing materials with copyrights will be provided by the instructor.</p> <p>Course Textbooks: NONE</p> <p>Recommended readings:</p> <ul style="list-style-type: none"> • Jobs to Be Done Theory to Practice, Anthony W. Ulwick. • The Start-up Owner's Manual: Steve Blank and Bob Dorf (2012). K&S Ranch, Inc. Publishers. • https://strategyn.com/ and its blog • https://steveblank.com/ • https://stratechery.com/ (Ben Thompson. Who knows one post can be used as a midterm exam case) • http://exponent.fm/ (Ben Thompson is the author and founder of Stratechery, a blog about the business and strategy of technology. You can follow him on Twitter @benthompson. James Allworth is the co-author with Clay Christensen of How Will You Measure Your Life and a writer for the Harvard Business Review. You can follow him on Twitter @jamesallworth.) • https://www.cbinsights.com/research/ and blog • Twenty Minutes VC Podcast http://www.thetwentyminutevc.com/ • Masters of Scale Podcast https://mastersofscale.com 	
Teaching Methods	<p>As in all MEF courses, teaching methods and strategies are selected to create a democratic learning community in which you will learn from one another, from inquiry, research and practice. Every member of the class is expected to freely share her/his knowledge, ideas and questions with the group without any concern. Throughout the course, experiential, constructivist, research-based and reflective teaching strategies are used. In all kinds of teaching and learning activities, student participation, active learning and learning by doing are essential.</p> <p>In this course, practical learning methods and strategies will be dominant in shapes of interactive studies, discussions, individual or group presentations and key-note speaker lectures in order to enhance the understanding and application of the entrepreneurial activities.</p>	
Homework and Projects	<p>Midterm will be on interpreting financial documents (very basic level), ability to formulate a business model, design experiments. In midterm 1-2 real case (a blog post will be supplied and students will map the company's business model and design some experiments for the startup/company. Homework and final project will be on a startup idea where students will form Team of 2 groups. They will describe the problem/solution and business opportunity. Then they will start validating their assumptions by talking to real customers, then making prototypes (landing pages, etc.). Final will be their investor presentations where they will be pitching their startup idea.</p>	

Laboratory Work	None
Computer Use	Personal Laptops
Other Activities	Visiting industry fairs or events where potential customers talk about their problems.
Assessment Methods	<p>Assessment on this course will be continuous, meaning it will take place throughout the course. The combined assessments are worth 100% (100 points), with the following distribution:</p> <p>Mid Term : 20 Investor Pitch Deck Presentation (Final): 25 Homework : 35 Prototype : 20 (functionality, design, traction, communication, esthetics)</p>
Course Administration	<p>Instructor's e-mail: tortopoglum@mef.edu.tr Instructor's office phone: 0 531 212 11 14 Instructor's office: Only online meetings with prior confirmation.</p> <p><u>Active participation:</u> In this course, while participation is not required, active participation is key to learning and applying, as for a topic like entrepreneurship, new ideas can be generated through questioning, brain storming and discussion. Most of the classes will be in a workshop style (like startup teams, product teams design). As final outputs of your workshops are your homework class active student participation and their reflection to their startup idea is key for your learning.</p> <p>The students are all expected to attend all sessions and be in class on time. When they cannot attend due to a sickness (which should require a report from a full facility hospital), they will inform the instructor by mail. Before the presentations, the group projects have to be submitted as a pdf file (other formats will not be graded) within a deadline provided by the instructor. Late assignments and bad formats will not get full points.</p> <p>Student feedback and questions are welcome anytime for making the course a highly valuable learning experience. For any course related issues, students are encouraged to visit the instructor during office hours or send e mails.</p>

ECTS Student Workload Estimation	Activity	No/Weeks no/weeks per Semester (A)	Hours		Calculation	Explanation	
			Preparing for the Activity (B)	Spent in the Activity Itself (C)			Activity Requirements (D)
	Lecture	14	2	3	0	70	A*(B+C+D)
	Lab etc.					0	
	Midterm(s)	1	6	3		9	A*(B+C+D)
	Presentation	17	2	1		51	A*(B+C+D)
	Final Examination	1	4	1		5	A*(B+C+D)
	Total Workload					135	
	Total Workload/25					5,4	