TTE01

Entrepreneurship for Engineers

4TU.

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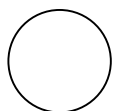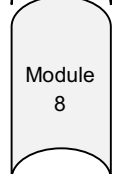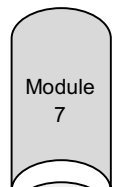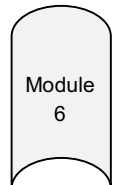Module 6: Strategy and Finance
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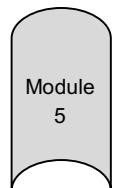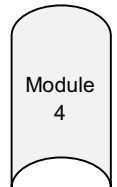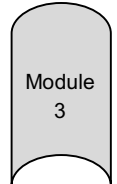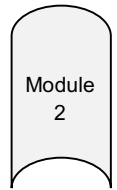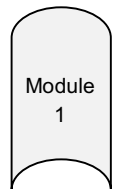
2. Introduction

2.1. Course overview

Entrepreneurship for Engineers provides you the tools to start your own company.

This course is to help and encourage you to start a successful technology-based venture this MOOC is full of inspiring stories of several start-up companies which came out of the ecosystem of the four technical universities in the Netherlands (4TU): Wageningen University and Research, Delft University of Technology, University of Twente, Eindhoven University of Technology.

If you have always wanted to become an entrepreneur using new technology, or when you frequently identify problems in present day life which can be solved with technology, or if you are simply interested to see new opportunities to put a new technology to use, this course is for you.

This MOOC aims to help you understand the process of entrepreneurship from a technology-oriented background, which is the core of 4TU. It is not necessary to have prior business experience before you start the course.

The MOOC has eight modules and each module focuses on a main topic related to starting a new venture (such as 'team', 'opportunity recognition', 'financing' or 'customers'). The modules are presented by experts from the four universities of Technology in the Netherlands in the field of entrepreneurship and technology development.

When you are a science or engineering student or employed in a tech environment, this course helps you to think about the entrepreneurial opportunities of new technologies. You will work on your idea and examples of founders and start-ups will be used during the course to initiate insightful discussions. You will be triggered to reach your full potential as an entrepreneur. The course ends with an assignment that asks you to develop a 2 page business plan and a video pitch. Successful participation will be rewarded with a great business proposition and – an opportunity to enter an incubation program at one of the universities involved in the MOOC. If you do the verified track, you will receive a certificate upon completion.

2.2. Learning objectives/outcomes

After this course you will be able to:

- Learn what it takes to become a technopreneur
- Understand the various ways of identifying opportunities
- Acquire the knowledge to conduct market research and provide evidence for the viability of the business idea
- Develop a viable business proposition
- Understand the dynamics of new venture development and team building
- Recognize the value of entrepreneurial ecosystems and put them to good use
- Translate the business idea into marketing and financial plans
- Present and pitch your business plan to various audiences, such as investors, customers and partners

2.3. What we expect from you

Being an online student, we expect you to actively participate in this course, contribute to a positive atmosphere by questioning, share and help out others, and engage in meaningful discussions aimed at collectively constructing knowledge.

Regarding deadlines, we expect you to keep on track in order to benefit from learning within a community. This course is meant to be a place where you learn with and from others.

2.4. What you can expect from us/the course team

The e-Moderator will guide you throughout the course, launching the weekly content and promoting and engaging in discussions. Guidance and support will happen on a regular basis.

Response Time: We will try to answer your questions in the discussion forum within 24 hours.

3. Course structure

The course consists of 8 modules that will run 6 weeks. We will start with an introduction lecture and end with a call to action. A brief summary of each module is presented below. Detailed instructions and resources will be provided during the course.

Week 0. Getting started

Date 9th of May,

The section Getting Started informs you about the course structure. You will become familiarized with the virtual learning environment, you can complete your personal profile, meet your fellow students and the e-moderators. These introductory tasks should be completed in the beginning of the course, after your first login.

Module 1. The start of the entrepreneurial journey

Date 16th of May, week 1

In this module you will learn the multiple starting points for entrepreneurship, for which we provide examples. There are multiple elements that you need to consider when to get started, such as your technical knowledge, social skills, learning orientation, and your personal attitude to value creation. In addition to the videos, we provide activities to help you identify what drives you as an entrepreneur, how strong your learning orientation is and in more detail what characterizes your entrepreneurial mind-set. The first three assignments are mandatory to make assignment 4. They are general knowledge you will need for assignment 4.

Module 2. Entrepreneurial opportunities

Date 19th of May, week 1

Every company starts with a good idea. But is every idea, good enough for launching a company? What does it take to convert good ideas into entrepreneurial opportunities? In this module you will learn about gathering data among your potential customers and identify the needs they have or the pains that bother them. You will be able to understand your customer better and develop opportunities that make a difference.

A key characteristic of a good idea is the ability to protect it from others exploiting that idea. This module will support you with examples and sources to identify the ways in which you can protect your idea effectively. The module ends with mini-assignments and a main assignment that will help you to formulate your value proposition well.

Module 3. Customer discovery and customer validation

Date 23th of May, week 2

Your business idea is only as good as the number of customers that are willing to pay for it. Before you develop your product, you need to find potential customers and talk to them to verify that the solution you offer solves the problem they experience. In most cases, you will have to adapt (pivot) your product to their specific needs. Once you have found a perfect product-market fit, you should verify that this is still a product that you want to bring to the market. Next, you must estimate the size of the market segment that you think is represented by the people you talked to. If that market is sufficiently large, and there are other potential market segments in the future, you can proceed to determine the price of your offering. Your pricing strategy should not be related to your cost price, but rather to the value it represents to the customer. The key lesson from this lecture is: make sure that your product is matches customer expectations and price it accordingly.

Module 4. The Minimum Viable Product

Date 30th of May, week 3

This module will be about the "Minimum Viable Product". After you understood the "pain points and the gain points" from the users' perspective, you will begin to think about your solution. The MVP is an early version of your solution. Its main goal is to receive feedback during the "solution interviews" that you can use to further improve your offering, while at the same time, you do not spend much time or resources on developing such a version.

The lecture introduces you to the concept of the MVP. The entrepreneur interviews will show some real-life examples of MVPs. There are three assignments. First, there is a short Multiple choice test to check your understanding of the concept. Second, there is a reflection of your potential MVP with some examples provided by venturehack.com. Third, we invite you to play the Marshmallow challenge and reflect on the learning's of this game. For this module you have to do a peer assignment, which counts for 10% of the total grade of the course.

Module 5. Business modelling

Date 6nd of June, week 4

Once you have an initial idea for your company, it's time to think about how your business model will look like. In this module we will cover a tool that can be used both for analyzing existing business models and for coming up with novel business models. This tool, BEconnect, complements the well-known business model canvas, and focuses on value exchanges between your company and the external actors or stakeholders. These value exchanges jointly determine how your company will create and capture value. You will learn the 5 basic structures of business models as well as the additional options you have to customize the value exchanges.

Module 6. Strategy and finance

Dates 13th of June, week 5

The content of this module is about strategy and finances. Without financial resources, your new venture will not be able to exploit the business opportunity, no matter how good your idea is! Entrepreneurs are always in search for promising financial support, but where to start and how to survive in the labyrinth of sources of funds? Being afraid of not getting funded is not a good start.

The "fear of the unknown" should be better leave space to the awareness of the possibilities and to the knowledge of where we stand and what is expected. In this module, we will appreciate which possible choices for funds can be made per each step of your entrepreneurial journey. We will learn that both entrepreneurs and investors have specific requirements that need to be met in order to secure a future to the business idea.

Module 7. Finding ecosystem support for your innovation

Dates 20th of June, week 6

History has shown time and again that in order to develop and successfully put on the market a new product or service, the voice of the customer is only one side of the coin. The other side of the coin is the realization that we are never alone in developing and commercializing a new product or service. There is typically a whole list of other organizations that have to be involved in this process: suppliers, complementors, actors in the adoption chain. Referring to these other organizations as our 'innovation ecosystem', in this module we introduce a method to map and analyze our ecosystem and to develop a strategy to align the different parties around our organization so that our innovation has a steady path to becoming a success on the market.

Module 8. Call for action

Dates 23th of June, week 6

You have almost completed the MOOC and you cannot wait for take-off. This module provides you with insights about "getting started". The previous module on the entrepreneurial eco system has shown you the benefits and support that other organizations can provide you. Yet, a well drafted business plan may not be good enough. You need to make sure people understand your plan well. What are tips and tricks in presenting your plan. How do you envision the future of your start-up and what is your personal ambition? What are the benefits of being in a start-up community and what are major challenges when you start-up grows exponentially? These and other issues will be discussed in this final module to encourage you to grow your ideas.

4. Assessment

All assignments are mandatory. In order to successfully complete the course, you need to pass 60% of the assignments. Assessment criteria for the assignments is detailed in the general introduction of the assignment.

Module	Learning activity / deliverable	Amount of assignments	Grading	Deadlines*
1	Homework Assignment	4	10%	4th of July
2	Homework Assignment: Peer review	2	10%	Submission: 30th of May Peer review: 6th of June
3	Homework Assignment	2	10%	4th of July
4	Homework Assignment	3	10%	4th of July
5	Homework Assignment	2	10%	4th of July
6	Homework Assignment	2	10%	4th of July
7	Homework Assignment	1	10%	4th of July
8	Final Assignment: Peer review	1	30%	Submission: 30th of June Peer review: 4th of July

* All weekly deadlines will be at 12:00 (UTC).
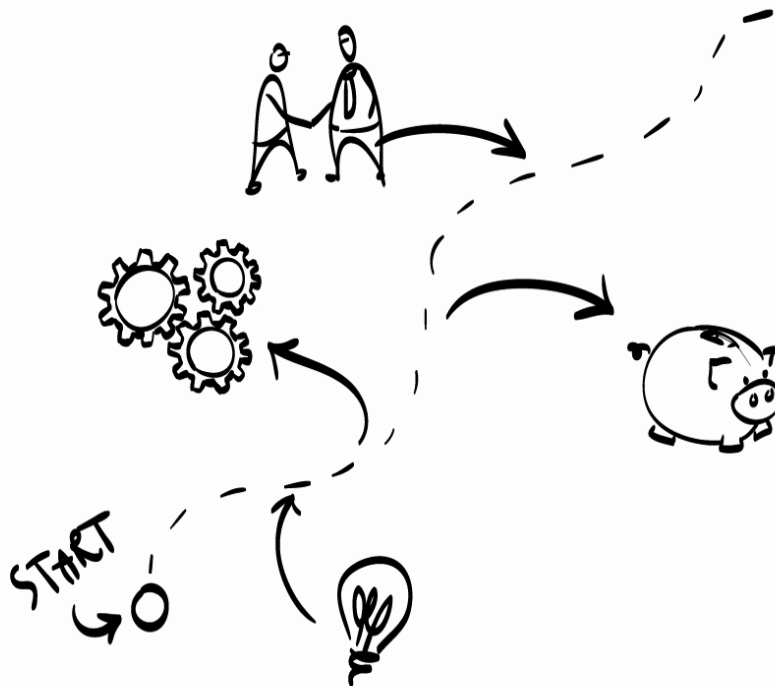
5. Resources & tools

All educational resources will be made available during the course. We will draw on a variety of sources, these include:

- short lecture videos

- interview videos with entrepreneurs

- homework assignments associated with each module

- main assignments to develop your start-up business plan

- required and additional readings to support you in the completion of the weekly learning activities

- Tools to develop and tease out the details of your value proposition and business plan

6. Contacts

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