

# Tech Challenge Syllabus

Summer Semester 2021, version 01.04.2021

## Program description & goals

Tech Challenge (TC) is an innovation program by the [techTALENTS](#) team of [UnternehmerTUM](#). Its goal is to provide participants with business-relevant practical experience on product and service development in teams. On a bigger scale, we aim to foster sustainable innovation by addressing real-world challenges and enabling talents to create impactful solutions in the form of a product or business model prototype (MVP). Within 3 months, participants form interdisciplinary teams and tackle one of the challenges provided by corporate, startup, or institutional partners. Each challenge can come from a day-to-day business operation, a use case, a problem that the industry faces in general, or a speculation on future trends. Partners provide teams with industry insights and experiences to better navigate the project development and acquire first-hand market information. [techTALENTS](#) supports participants with team matching and coaching, input sessions, and feedback rounds with innovation & entrepreneurship experts, as well as with a team budget, and administrative support in individual cases. At the end of the program, the best projects are awarded with a prize and supported by the respective partner and entrepreneurial ecosystem of [UnternehmerTUM](#).

**NOTE:** It is possible to take part in TC remotely (e.g., if you are located outside of Germany).

## Grading criteria

By the end of the program, each team gives the final pitch and submits deliverables via [Google Classroom](#) (class code: bsdo2mi) to prove the active participation in the program and to provide materials for the grading. The grading criteria are:

1. Functional Prototype (in hard- and/or software, shown during the final pitch): 40% of the grade
2. Final Demo Presentation (7-min pitch with slides and showcase of a landing page or a 2-min video): 30% of the grade
3. Technical Project Description: 15% of the grade
4. Read Deck (up to 10 slides): 15% of the grade

## Workload & ECTS

TC requires 10-15 hours of work per week per participant (6 ECTS | 1 ECTS = 30 h). Note that the number of credit points may vary across TUM departments and other universities. If you need a certificate of participation in TC for your home university, contact the course organizers.

## Communication channel

Slack is the main communication tool for TC: [join.slack.com/t/utum-techtalents/signup](https://join.slack.com/t/utum-techtalents/signup)

Make sure you set up your profile (your real name and picture) and joined the channel #tc\_21s.

## Program overview

### *Phase 0. Orientation*

In this phase, participants register for the program, familiarize themselves with the challenges, and form teams.

**Course registration (Apr 1 - May 2).** Every single participant should register and accept the [Privacy Policy](#) to be able to take part in the program. The registration is open on the TC webpage: [techtalents.io/tech-challenge](https://techtalents.io/tech-challenge).

Note for TUM students: registration FOR THE COURSE via Campus TUMonline is neither necessary nor possible. You should register ONLY FOR THE EXAM to get your credit points accepted by TUM.

**Info-event for interested students (Apr 15, 5 PM<sup>1</sup>).** If you have questions about the program and/or about entrepreneurship and innovation opportunities at UnternehmerTUM, join Zoom info-session: <https://unternehmertum-de.zoom.us/j/97097702923>, passcode: summer2021

**Team-finding and brainstorming sessions (Apr 15, 25, and 28: 6 PM).** You can participate in TC only with a team (3 to 5 people). Thus techTALENTS offers you various options to meet fellow students and find a good match. We expect you to actively participate in team-finding activities and join online discussions. If you already have someone willing to join your team, we respect your wish and will follow it. Although we highly recommend looking for team members with matching skills and interests rather than friends 😊

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<sup>1</sup> Time is given for CEST time zone if not stated otherwise.

**Tech Challenge Kick-Off (Apr 19, 6 PM).** This is the official start of the program so make sure not to miss it! Active participation is required for all participants. Meet and mingle with all TC stakeholders: fellow students, partners, coaches, experts, and guests. Get a glimpse of the challenges and find classmates with matching interests. The event will last for 2 hours via Zoom:

<https://unternehmertum-de.zoom.us/j/93140979757>, passcode: tc\_21s

**Deep Dive workshops by partners (Apr 20 - 23: 10 AM, 1 PM, or 3 PM).** Inspired by challenge pitches at the Kick-Off, you might have questions for the partners and hopefully, several ideas on your future project. Join these 2-hour sessions with partners of your interest to dive deeply into the topic, ask your questions, present your ideas, and get cool teammates onboard. The detailed schedule of partner slots will be announced on Slack. Although the Zoom link will be always the same:

<https://unternehmertum-de.zoom.us/j/92432418888>, passcode: tc\_21s

**Team registration is required.** Every team should be registered. If you are quick enough to find all team members and your top-3 challenge choices before April 25, you are good to go. If you would rather be matched with a team, or your team is not complete, you have one more week for consideration and you should register for the team-matching until May 2. So remember about the deadlines:

- **Team registration (your team is complete): possible only until Apr 25, 11:59 PM.**
- **Team-matching registration: possible until May 2, 11:59 PM.**

## *Phase 1. Ideation & Exploration*

After successful onboarding, teams start working on their assigned challenge and can make use of the budget (250 EUR) for the project needs. From now on, the team takes the lead in the project development. Although techTALENTS supports all teams with coaching, consultancy, network, tools, it is the team's job to take care of the project planning and implementation. We recommend following the [design-thinking approach](#) that is tolerant to frequent changes and allows for experimentation and adaptive project development.

**EXAMPLE team activities (note that the list is not extensive):**

- Get to know team members and the coach to understand individual strengths, goals, and needs. [Align](#) within the team.
- Schedule regular meetings with the coach and partners (e.g. every 2 weeks).
- Collect insights (e.g., on [Miro](#) whiteboard) from partners and your own "desktop research" to understand the challenge better.
- Emphasize with people addressed in the challenge: Who are they? What are their experiences? ([Empathy interviews](#)).
- Analyze interview results and derive common patterns (with tools like [user story map](#), [persona model](#), [empathy map](#)).
- Define the root cause of the problem (e.g. with the [5 Whys technique](#)) and [ideate](#) on potential solutions.
- Quickly evaluate your solution ideas (e.g., innovative vs. already existing, impact vs. feasibility), pick the fav(s) and collect feedback from users and customers using quick mock-ups (e.g. paper prototype).
- Analyze feedback and describe your selected solution(s) in terms of value proposition to the customer and user (see [value proposition canvas](#), [business model canvas](#)). Don't forget the question: Who and why would pay for your solution?
- Evaluate selected solution idea(s) to pick/check the one you want to continue with (e.g., with the [experiment canvas](#)), and save the second-best option as a backup (relevant if you decide to pivot).
- Bring your solution prototype to the next level (e.g., physically in [MakerSpace](#), digitally in [FIGMA](#), [InVision](#), [Marvel](#), and alike)
- Prepare your midterm pitch, train it, and get feedback at the dry-runs to present findings to the partner at the check-in.

**Midterm Dry Run (Jun 7 - 8, time TBA).** A test midterm pitch and a feedback session before you meet with the partner.

**Midterm Pitch (Jun 14 - 15, time TBA).** All teams pitch to the partners, present their prototypes, ask questions, and receive feedback.

## *Phase 2. Rapid Prototyping & Testing*

After the midterm meeting with the partner, each team should be clear on the direction their project develops. The third phase of the program lasts less than a month and is dedicated to improving and testing the solution prototype.

**EXAMPLE team activities (note that the list is also not extensive):**

- Review the insights you got by this moment and validate your idea again: Does your solution fit the initial challenge and partner interests? Does the feedback, you collected, match your own assumptions about the solution? Is there something alike already available on the market? Do you need to repeat some steps from phase 2? More solution interviews? Testing the prototype with another target group? Try to "break" your idea and if it is robust enough, continue with it. Otherwise, pivot.
- Identify the key features of the solution that bring the most value to customers and users (see [MVP](#)) and implement them in the prototype.
- Let your customers and users try out your functional prototype and collect their feedback. What is the value they are ready to pay for? (see [USP](#))
- Improve the functionality of your prototype and your marketing strategy, based on the feedback and other insights you got.
- Prepare your deliverables for submission, train your pitch, and get the most feedback you are able to get in order to improve.

**Final Dry Run (Jul 6 - 7, time TBA).** A test final pitch and a feedback session before you meet with the partner.

**Tech Challenge Demo Day (July 12, 9 AM - 6 PM).** The final day of the program. First, you pitch to the partner and the innovation & entrepreneurship expert. This pitch helps the partner decide on the challenge winner as well as contributes to your final grade.

**Tech Challenge Winner's Pitch Night (July 12, 6 PM).** This evening is your time to shine and celebrate for all the hard work you put throughout the semester. There, the winning teams of each challenge (selected by the partners) pitch their solutions, and the overall winning team of TC is selected. This event is always great fun for all participants. So make sure to invite your family and friends to share this night together.