Making a MOOC at TUM

A Handbook for Instructors and Course Teams

Technische Universität München
Medienzentrum

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Congratulations and Welcome

Dear colleagues,

Congratulations on your MOOC! We are delighted to work with you, and very excited to see your course become part of the collection of cutting-edge courses that have introduced over 100,000 learners around the world to the Technische Universität München.

Designing, developing, and running a MOOC is an intensive and rewarding effort. We are here to support you.

This handbook is meant to serve as a thorough overview of the process of building a MOOC. The suggestions in these pages are based on a combination of scholarly research, observation, experience, and vision for the future. We open with a list of resources available to you as you develop your MOOC, as well as a timeline in which we roughly lay out a recommended timeline for a MOOC that is to be developed in 10 months. In the pages that follow, you will find three types of guidance:

Checkpoints, which we envision as points that we are in touch for a meeting or conversation,
Processes, which include best practices and experience-based tips, and
Checklists, which offer specific tasks and qualities to consider while developing the course, and which can be used cumulatively before launch for a Quality Assurance Review.

We are available to provide suggestions and guidance at any time. But for now, we look forward to our first meeting together, the first step in the process of sharing your MOOC with learners around the world. We will be in touch to arrange this meeting with you.

Viel Erfolg! With our best wishes,

The Medienzentrum Team

Your Support Team

Medienzentrum is the center for digital pedagogy at TUM and provides multimedia and design services as well. We are located at Barer Strasse 21. We invite you to visit our website, www.mz.itsz.tum.de, for more information on our work and services. For all MOOC-related inquiries, please email us at mooc@tum.de.

Anna Kruse is an eLearning specialist and your MOOC coordinator. She shares best practices, establishes recommended procedures, and shepherds MOOCs throughout their lifecycle. **Anna is your central contact person throughout your MOOC.**

Elvira Schulze is an eLearning specialist, specializing in blended learning scenarios. She offers pedagogical/didactic advice on teaching in digital environments. **Elvira can assist you with questions of pedagogy and technology-enhanced teaching.**

Marcus Schöbl is a media specialist and videographer at the Medienzentrum. He coordinates the use of the MOOC studio and provides production and editing assistance. **Marcus can assist you with logistics related to filming for your MOOC.**

About MOOCs@TUM

Our “North Star”

In start-up lingo, a “north star” is a set of values that a project or company uses to continually reorient themselves in times of rapid change when new possibilities are continually emerging. MOOCs, much like start-ups, are being continually redefined, and even the platforms themselves (Coursera and edX, in TUM’s case) are changing on quarterly cycles. We have tried to encapsulate both our organizational values and our goals for MOOCs in a single statement that we think we can all stand behind:

“Through MOOCs, TUM aims to cultivate in global learners the creativity, passion, and technical competence needed to tackle the crucial challenges of our time.”

This “north star” should be the compass point that we continually orient our MOOCs toward. As you design your MOOC, how does it point toward this north star?

Common Standards

MOOCs are an extraordinary opportunity to share the TUM brand and experience with learners around the world. According to one data point we have from Coursera for one of our MOOCs, 34% of students responding to a pre-course survey said that they had never heard of TUM before signing up for that particular MOOC. Because MOOCs serve a wide-reaching public relations function, we ask that course teams keep some common standards in mind as they design and develop their MOOCs. Working within the framework of these standards will help present a cohesive, consistent image of TUM to global learners who participate in MOOCs.

We ask you to participate in helping us meet the following standards for MOOCs@TUM. We invite your feedback on these standards and welcome your suggestions for additional standards.

The MOOC demonstrates a mastery orientation.
Mastery orientation is a pedagogical approach in which an instructor designs a learning sequence in such a way that students must master foundational material before they move on to more complicated material. While designing for mastery requires a significant time investment at the design stage, it is especially appropriate for asynchronous courses such as MOOCs, in which students do not receive individualized guidance from the instructor.

Instructions and objectives are clearly communicated.
Students taking the MOOC should clearly understand why each assignment matters and how it contributes to their overall learning. Assignments should build on each other, and no assignments should end without a sense of purpose and continuation.

The MOOC has a “people-first” approach.
We all want students to feel welcomed and supported as they take part in a TUM MOOC. Two factors critical in helping students feel like part of a community are being responsive to their feedback and helping them be part of the MOOC, no matter where they are. For many students, bandwidth and access to a personal computer is a challenge, so making course assets portable (through downloadable videos, transcripts, and more) is key to their participation.

The MOOC respects the MOOCs@TUM branding guidelines.
Each MOOC will have its own style and visual details. But in order to present a consistent impression across courses, however, we ask that each MOOC develop a “look and feel” that falls within the branding framework we outline in Appendix B. Medienzentrum is available to help create a basic branding package for your MOOC.

Lessons Learned

Thus far, TUM has successfully completed a number of individual MOOCs and re-run several of those MOOCs. Some of the lessons we and the instructors have learned in creating and running these MOOCs are:

Teaching to a camera is not the same as teaching to a classroom.
Although the instructional content may be similar, there are important differences between an online course and a face-to-face course. For example, because you and the students are participating in the course at different times (asynchronously), you won't be able to read facial cues (confusion, etc.) as you would in a classroom. For this reason, it's important to participate in a trial filming session as soon as possible to accustom yourself to speaking to a camera. It is also important to review your content from the perspective of a student so that you can plan to address possible points of confusion in your videos, since students won't be raising their hands in real-time.

Identifying open-access instructional materials can take time and energy.
Because a MOOC is open to the world, materials that you would normally use in a classroom for educational purposes might not be able to be used in a MOOC. Consider the copyright status of visuals, texts, and other media before including them in your course.

There are many interdependencies in developing a MOOC. Cushion your timeline liberally.
There are many steps in building a MOOC, and many of those steps are dependent on a preceding step. For example, if the course readings haven't yet been finalized, and the instructor refers to a reading in a video—but that reading is ultimately not used in the MOOC—students may be confused. Closely following a detailed timeline can help prevent such a situation, and building in extra time from the beginning can help offset any unforeseen delays.

Plan to spend significant time on your video lectures.
From concept to finished product, a video lecture requires alignment to other course content, script drafting, filming, multiple takes, editing, uploading, caption/transcript preparation, and build-out in the MOOC platform. Based on feedback from instructors who have filmed a MOOC, you should roughly plan to budget between 2-3 hours for each 10 minutes of finished filmed content that you are envisioning.

A multi-faceted quality assurance review will help catch the little issues before students do.
A quality assurance review for a MOOC should be approached from multiple angles: the course should be reviewed for content (are all figures and calculations correct?), appearance (has care been paid to grammar and the small details?), coding (are all the assessment questions correctly coded?), and international accessibility (does the course carefully define technical terms and avoid idiomatic expressions?). You may be surprised to find how many small errors students taking a MOOC will catch and mention on the discussion board!

Finishing the MOOC in advance of the course launch is important.
Finishing and uploading your MOOC content before launch is important not only to allow time for a quality assurance review, but also to allow you and the rest of the course team to focus your attention on mentoring students as they participate in the course.

Facilities and Services

MOOC Studio
Medienzentrum

The Medienzentrum MOOC studio is a state-of-the-art studio specifically designed to meet instructors' MOOC production needs. With an integrated green screen, camera equipment, tablet and stylus, and teleprompter, as well as sound-insulated walls, instructors are able to record their MOOC lectures in privacy, with support from Medienzentrum just a room away. The MOOC studio is available to reserve for a nominal fee, which includes assistance with set-up and the post-production process, including editing.

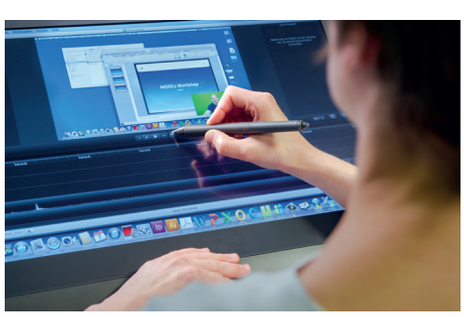
Content Development Support
Medienzentrum

Likewise, developing disciplinary (or cross-disciplinary) content for a MOOC requires careful attention to the wide range of needs that MOOC students have. Unlike in-person classrooms, where faculty can assume students have a certain foundation of knowledge, MOOC students represent all possible levels of education. Medienzentrum is happy to provide pedagogical advice on how to approach teaching your subject in this new environment.

Annual eLearning Day
Every spring, the Medienzentrum hosts an annual day focused entirely on eLearning. Instructors who join are led through an introduction to the latest tools and pedagogies for eLearning. Potential topics relevant to MOOCs (and use of MOOC material on campus) include using technology to engage large classes, assessments at scale, and flipping the classroom using open resources. We invite you to join us for the next eLearning Day.

Support for Teaching Online
Medienzentrum

Producing and teaching a MOOC is a very different process from that of an in-person course. All course materials, including lectures, are produced before the course begins, and delivering lectures in front of a camera instead of a classroom requires adjustment in style and approach. Medienzentrum, which supports best practices in all varieties of digital pedagogy, has supported TUM's MOOCs from the start and is eager to provide instructors with support throughout the entire process.



Additional Support
ProLehre

ProLehre provides consultations on developing disciplinary content for lectures and assessments. For more on ProLehre, please visit their web page at http://www.prolehre.tu-muenchen.de/cms/.

1. 10 OR MORE MONTHS BEFORE LAUNCH

1.1 Checkpoint: The First Meeting

How do I get started?

We want to help you get off to the right start. Designing, developing, and running a MOOC is exciting, but there is much to do. We are here to help.

As soon as we hear about your interest in creating a MOOC, we will be in touch and send along this handbook. Once you have secured funding for your MOOC, we will also arrange a date for a first meeting, in which we'll get to know each other and talk about your ideas for your MOOC.

We think that this meeting is an especially important one as it allows us to learn about your goals for the MOOC and gives us all a common frame of understanding so that we can best support you.

We want to assure you that we will support you along the way—this handbook is meant as a helpful point of reference, but we are always available to provide help and guidance. Please reach out to us anytime. Please direct your emails to mooc@tum.de, and you will receive a prompt response.

When?

As soon as possible

What should I think about for the first meeting?

We see the first meeting as an informal and conversational "project launch" meeting. However, in order to have the most productive conversation possible, it would be helpful if you would come with some initial ideas on the following topics:

Timeline
Looking at your current and upcoming commitments, how much time will you need to produce the course? When do you expect to be able to launch it? Keep in mind that your support on the MOOC discussion board will be important while the course is live.

Learning Goals
What do you want students who are taking this course to learn? What level of knowledge about the course topic should they leave the course with? Establishing your learning goals early will help shape the rest of your course development and provide an anchor as you move into more and more detail during the design process.

Audience
MOOCs are, by definition, freely open to all. However, it is not only acceptable but even advisable to identify a certain target group of students. Doing so will allow you to focus your instruction and teaching style.

Teaching Goals
What goals do you have for your own teaching through this MOOC? What sharable insights would you like to get out of running a MOOC? Do you have a vision for bringing the MOOC material you produce "back to campus" as a resource that will enrich your in-person classes as well?

Resources
In order to get the project moving forward, you will also need to identify who will be able to support you. Will you be hiring student help? Are there departmental staff who are also interested in helping? What colleagues might be willing to offer guest lectures or support content development?

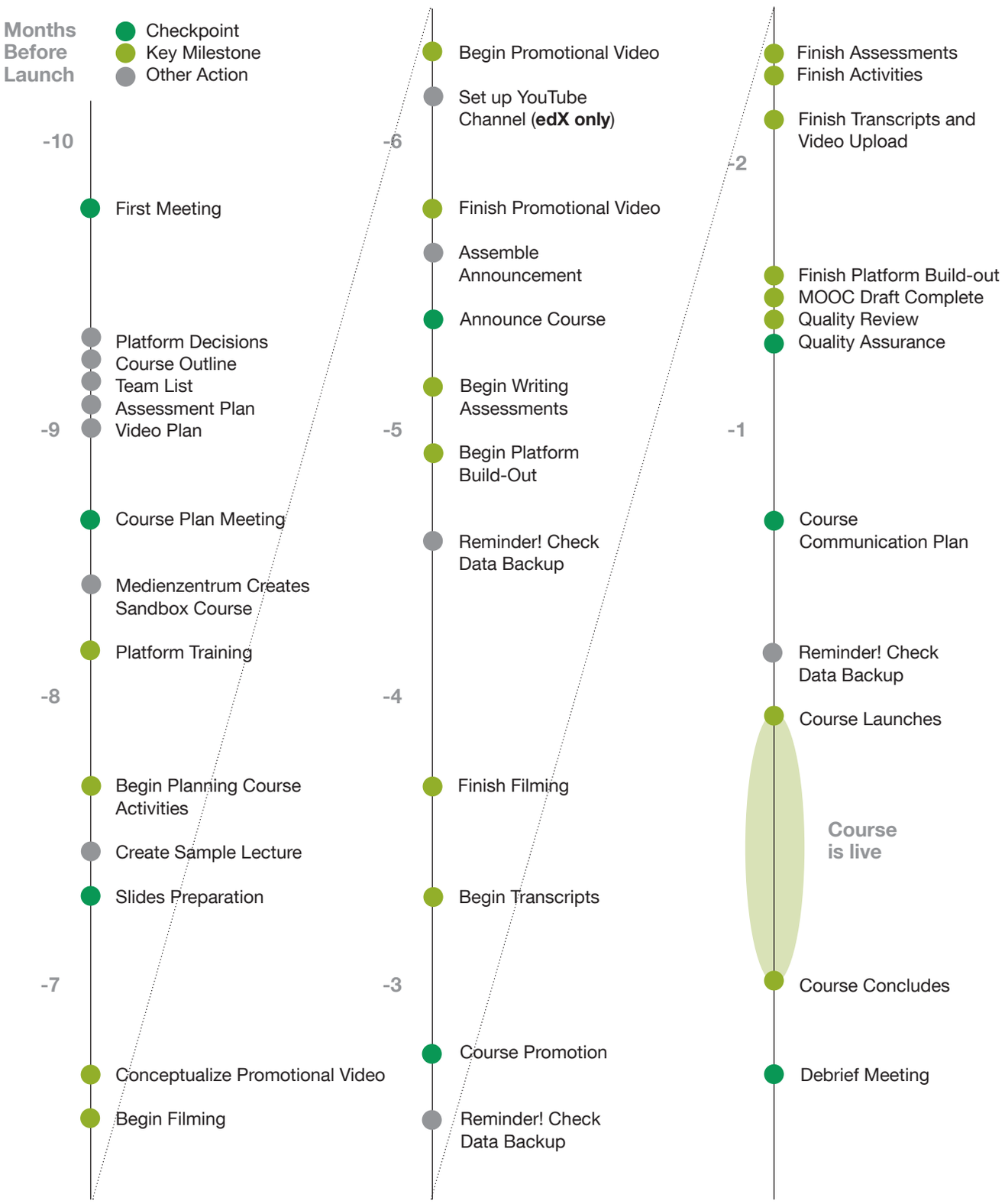
What You'll Receive from Us

- An alignment worksheet
- List of video examples
- Details on the different MOOC platforms

1.

1.1.1 Timeline

Please consider this timeline a rough guideline.
Individual MOOC project needs may vary.



2. DURING THE 8-9 MONTHS BEFORE LAUNCH

2.1 Process: Designing Your MOOC

In this chapter, you will find guidance on some key design decisions to make while you are conceptualizing your MOOC.

Platform Decisions

TUM has partnerships with both edX and Coursera, two of the leading MOOC providers. edX is a Boston-based non-profit founded by Harvard University and MIT, and Coursera is a company based in Mountain View, CA, with close founding links to Stanford University.
You can choose the MOOC provider that best fits your course's needs.

edX
- open source platform with LTI
- variety of question types
- flexibility and ability to access code (to incorporate JavaScript elements or do limited inline CSS edits)
- timed transcript player
- attractive visual analytics tool built based on feedback from instructors

coursera
- largest MOOC user base (over 15,000,000)
- recently redesigned, attractive platform
- easy, user-friendly course authoring
- ability to include interactive questions in the middle of videos
- well-organized discussion forum structure
- ability to queue emails for specific learner milestones

Learn More about the Platforms
Please note that, because the platforms are continually updated, the latest information on platform capabilities is best found on the platform website listed below. Your team at Medienzentrum is happy show you the different platforms. Just let us know you would like a consultation.

www.edx.org
www.coursera.org

Coursera is currently emphasizing "auto-cohort" courses, meaning that the courses are "open" for months at a time, but students are clustered into cohorts that begin at regular intervals. Coursera also offers "on-demand" courses, which students can enroll in and complete at their own pace. edX also offers "on-demand" courses, as well as session-based courses, in which course material is released on a weekly basis during a set period of time, and students all participate in the course at the same time.
We are happy to help you decide what format would be best for your course.

Session-based (edX)
- students enroll any time but can only access material once course session begins
- set beginning date and end date
- students progress through material at *same* pace
- material released incrementally
- course team's attentiveness to the discussion board needed for the course session only

On-demand (Coursera & edX)
- students enroll any time and can immediately access material if the course has been released
- students progress through material *at any pace they like*
- material all available at once
- course team's attentiveness to the discussion board needed for the full period the course is available

Auto-cohort (Coursera)
- students enroll any time and join the next available cohort
- students progress through material at a *suggested pace*
- course team's attentiveness to the discussion board needed for the full period the course is available, but Coursera helps recruit mentor volunteers to assist in monitoring discussion

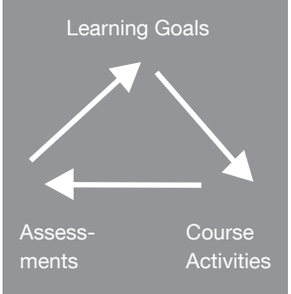
If you decide to offer a session-based course, it will be important to think about how you will pace the release of your course materials.
(In self-paced courses, all the material is available to students at once.) Do you want to offer one section per week? Or would you prefer to release material to students twice a week? Or would you rather release it all at once? Deciding on the appropriate pacing for your course material is an important first step before moving on to the course announcement and beginning to build the course.

2.

Course Design

Perhaps you are creating a MOOC out of a course that you have already offered many times on campus. It is important to keep in mind that offering a course online is a very different experience than offering a course on campus. For one, the students taking the course will come to the course with varying levels of knowledge and motivations. And since the course is available to students around the clock, interacting with students becomes a different process. Acknowledging and accounting for these differences early in the design process can help make the process of building a MOOC a smoother one.

About Alignment
Alignment is an important instructional design principle that brings coherence to your course design. When implemented effectively, it can be used to validate your measurement of student learning by helping you assess exactly what you have taught, and help you teach exactly what you intend. Learning objectives, instructional activities, and assessments should all reinforce one another.



Source: Eberly Center, Carnegie Mellon University

Identifying Learning Objectives

What do you want your students to learn? What enduring knowledge should they take away from the course—what concepts that will change the way they problem-solve in your discipline and perhaps even beyond? Sharing your primary learning objectives with students is important to help them understand why the course matters. Taking it a step further and going into even more detail for each of your course units can also be a helpful exercise that brings you toward alignment in your MOOC.

Bringing In Cases and Examples

Student surveys have suggested, and research supports, that including case studies and concrete applications of course content in a course deepens student learning and engagement. You might consider, for example, bringing illustrations from industry or business into your lectures, or inviting guest lecturers or outside experts to provide real-life examples. You might also ask students to work on a project that prompts them to solve a real-life problem using the theories that they have learned, or create questions that lay out professional scenarios that students might encounter and ask them to make professional decisions based on what they have learned.

Designing Your Video Style

Videos are one of the primary ways an instructor provides instruction in a MOOC, and according to student feedback one of the most important course features for their learning. It's important, therefore, to think about how you can best teach students your course content in the video format. Possibilities for video style include presenting directly to the camera (in front of a setting of your choice or a green screen, which allows superimposed images later), speaking in front of a whiteboard or tablet that you use to illustrate concepts, lecturing with slides, or using existing, open-access animations. For more examples of the possibilities, please consult with Medienzentrum.

Designing Interactions

Many of the interactions that you use in your classroom, such as case studies and discussions, can be "translated" into the online environment. Additionally, questions in MOOC environments allow you to offer students pre-defined written feedback/pointers when they select a wrong answer. If you want to develop more complex interactions for students, such as simple simulations that students can manipulate, you will want to plan to hire web development help. For more ideas on useful interactions in a MOOC, please consult with Medienzentrum. We are happy to offer ideas on the question types that already exist in the platform, and what is possible beyond those.

Composing Your Grading Formula

In both edX and Coursera, it will be important to identify a grading formula that the platform will then use to dynamically calculate students' grades. What will the passing grade for your course be? You will need to identify a passing grade, the threshold for students to receive certificates. What types of assignments will you have that are graded, and how much are they worth toward students' final grades? For example, you might decide to have 6 homework sets worth the entire 100% of the grade, or 4 homework assignments set to 5% each, a mid-term at 20%, and a final exam at 60%.

Planning for Teaching Presence

Once the course is live, students will use the discussion boards to introduce themselves, ask technical questions, ask for feedback on difficult concepts, talk through scenarios related to the course content, and more. For them to have a positive experience in the MOOC, it is important that they feel heard and receive prompt replies to their inquiries. To that end, it is useful to begin thinking early about who (teaching assistants/TAs, colleagues, yourself) will be available to serve as a "teaching presence" on the discussion board. An hour of attention a day could suffice, but more is helpful if possible. Keep in mind that on both platforms, you can appoint students performing excellently in the MOOC as "community TAs."

2.1.1 Design Checklist

Please use the following checklist as a guidance document. You may also want to come back to it later, once you have some materials developed, to check your progress on these items.

Item	Description	Rationale
Course topics	A course topic list is prepared, divided into weeks/sections and units.	This course topic list is important for the further development of the MOOC, since both edX and Coursera organize courses in this way.
Free access to materials	Any materials that are required are freely available. Materials that have a cost associated are clearly listed as “optional.”	In order to respect the open nature of MOOCs, all possible effort should be made to ensure that any requisite material is available for free.
Multi-level objectives	Course includes both course-level learning objectives and module-level objectives.	Aligning course objectives with module-level objectives helps keep instruction (filmed lectures and other materials) organized and coherent.
Mastery-oriented objectives	Module-level learning objectives build progressively toward mastery of the topic.	Learners should be asked to demonstrate mastery of knowledge at a lower cognitive order before higher cognitive orders.
Clear, measurable, and suitable objectives	Learning objectives are clear and understandable for students who may be new to the topic, describe measurable outcomes, and are appropriate to the level of the course.	Learners without specialized knowledge should be able to understand the objectives and identify their relevance to their own development. Measurable outcomes can be directly translated into assessments and gauge learners’ skills acquisition.
Grading formula	A grading formula, including decision on passing grade, has been established.	Students will want to know exactly how their score will be calculated. The grading formula identifies what types of assessments exist, how they are weighted, and how they contribute to the final grade.
Designing for diversity	A variety of graded activities are planned that will cater to different learning styles.	Learning assessments should be varied and include more than just multiple-choice responses if possible. And because the learners participating in the MOOC will be representing time zones around the world, please keep this in mind as you design your deadlines.
Interactions and activities	The course will provide interactions and activities that promote active learning.	Active learning is promoted by asking students to apply content to real-life situations, among other things.
Prior knowledge	Activities in the course will activate prior knowledge.	Research suggests that students learn best when they have the opportunity to recall what they already know. Consider including activities in the course that serve this function.
Examples and case studies	The course will include examples and case studies of the content being taught.	Including examples and case studies helps students understand the applicability of theories and the relevance of the content.
Real-life challenges	The course asks students to help solve real-life problems.	Giving students meaningful challenges can be highly motivating.
Application of knowledge	Some assessments and activities ask students to apply what they have learned.	To challenge students with higher-order thinking, once they have developed a solid foundation, ask them to apply their learning.
Support plan	Plans are made for the instructor and TAs to be available on the discussion board for questions.	The active participation of instructors, and other mentors such as TAs, benefits students as they study.

2.2 Checkpoint: Course Plan Meeting

When?

Once you have developed your course outline, topic list, and objectives

What You'll Receive from Us

- Video plan worksheet
- Documentation on your chosen platform
- Information sheet: Who Are Our TUM MOOC Students?
- Guidelines on filming a promotional video

Date

Let's be in touch regarding this step around

_____

Date

Purpose of Meeting

At this point, you will have created your course outline, identified your topics, and drafted your learning objectives. You may also have thought about assessments, how the course will be graded, and video. The purpose of this next meeting is for us to offer feedback on your plans for taking the next steps.

Next steps at this point will involve creating an even more detailed lecture preparation plan. We will provide you with a video plan table that you can use to organize your lecture material. You will also want to begin thinking about the activities that you will offer students in the course, from assessments to practice questions to case studies and even interactive exercises. We are happy to talk this through with you.

What will we discuss in this meeting?

Let's discuss the following at this meeting:

Platform Decision
Which platform, edX or Coursera, have you decided would best fit your needs?

Course Outline
The course outline should include how many weeks (or sections, if you prefer to do a self-paced course) the course will last, and what topics/units will fall under each section.

Updated Team List
Perhaps your team list has changed by this point, and some new members have been added. Would you be willing to share an updated list with us?

Research Ideas
If you have any research questions that you think might be interesting to ask of the data, we would be interested to hear them.

Assessment Plan
How do you plan to assess the students? Will you have graded homework assignments, or just a final exam? What will a passing grade in the course be, and what is the grading scheme?

Video Plan
Perhaps you'll have had the chance to review the sample videos we shared with you. What video style works best for your teaching style and your content? How do you envision your videos looking?

Promotional Video Brainstorming
It is not too early to begin thinking about your promotional video, a 1-2 minute video that is meant to inspire excitement and enrollments.

3. DURING THE 3-7 MONTHS BEFORE LAUNCH

3.1 Process: Developing Your MOOC

This chapter serves as a guide to some of the key steps in development, as well as best practices, as you build your MOOC.

Platform Training

Each of the MOOC platforms, edX and Coursera, have detailed platform documentation available. However, because it is often most effective and efficient to learn by walking through it with someone who is familiar with it, Medienzentrum is available to meet with you and/or your student assistants for a "platform walkthrough."

During the walkthrough, we can address the most important settings on the platform and common points of confusion in the process of building a course, as well as any topics you would specifically like to cover. Please contact us to schedule a time that suits your schedule.

For your reference, the official platform documentation for each of the platforms is available at these addresses:

Coursera Documentation: https://partner.coursera.help/hc/en-us

edX Documentation: http://edx.readthedocs.org/projects/edx-partner-course-staff/en/latest/

Preparing for Your Videos

One of the first videos to make is the course promotional video, or "teaser" video. This is used for course marketing. As early as is convenient for you, Medienzentrum can offer you advice on your promotional video.

Once you have organized your course and identified topics, the next step is to develop scripts (or outlines, as best suits your personal preference) for your lectures, along with any supporting material, such as slides. Please keep in mind as you prepare your scripts and slides that research has shown that student engagement tends to stay the strongest when individual videos do not exceed 8-10 minutes in length. In addition, posting videos that are shorter will allow you to pose formative assessment questions to students before they move on to the next video. To that end, consider breaking your lectures into discrete topics that can be explained in 5-10 minutes.

With regard to slides, please keep in mind that, much of the time, students will watch the video at the size it is when embedded in the course. This means that your slide text should be large and your illustrations clear. Overall, we recommend that you avoid including a large amount of content in your slides. All videos should be captioned, as well as (optionally) accompanied by a handout of your choice, so students who require extra time with your visuals will be able to access them outside the video. More on captioning/transcripts below. It is also important to avoid mentioning dates in your slides or in your lectures, as including them makes extensive editing necessary the next time you use the materials.

Whether you prepare full scripts for your videos or simply prepare an outline for each video is your choice. If you prefer maintaining some spontaneity in your presentation, an outline might serve you best. If you feel more comfortable working with a script, Medienzentrum's MOOC studio is outfitted with a teleprompter for your convenience.

There are a number of video styles that you might use for your lecture. In some styles, you might be standing in front of a simple fabric backdrop; in another, you are seated in front of a green screen writing on a tablet, with your written content transposed into the background; and in another, you speaking directly to the camera, with your slides visible in the background. Medienzentrum can assist you in identifying a style that best suits your content and personal preferences.

The Medienzentrum MOOC Studio has been outfitted with MOOCs in mind. If you are interested in using the Medienzentrum's MOOC studio to film your MOOC lectures, please contact Medienzentrum to arrange a consultation.

YouTube Channel (for edX courses)

Courses hosted on edX will require a YouTube channel to host their videos. Videos hosted on YouTube will then be linked back to the course on edX. Because your MOOC channel will need to be linked up to the main TUM-edX channel, Medienzentrum can assist you in setting up this channel. Please just contact us when you have your first videos ready to upload.

Accessibility

Further information on accessibility is available at Coursera (https://partner.coursera.help/hc/en-us/articles/204273495-Content-Accessibility) or in Section 3 of the edX documentation (http://edx.readthedocs.org/projects/edx-partner-course-staff/en/latest/accessibility/index.html)

Because the student body for a MOOC is so diverse, it is important to consider accommodations for users with disabilities. Accommodations can include the following:

Downloadable Slides

Because transcripts do not include text on the slides that may be in the background of your video, a downloadable PDF of these slides will help students access the content.

Alternate Text for Images

All images included in assessment questions should include an alternate text description for those with visual impairments. Alternative text can be coded into an image when placed.

Transcripts and Closed Captioning

Each video should be closed captioned and accompanied by a downloadable transcript for those with hearing impairments, language learners, or those who prefer to read the lectures for learning style or other reasons.

Creating Transcripts

Once videos are produced and finalized, timed transcripts, which allow students to turn on closed captioning, should be produced. **Please note: timed transcripts should not be created until a final version of the video is available!**

For those hosting their MOOC on Coursera, transcripts will be generated by Coursera after the video has been uploaded in its final form. More information is available in the Coursera documentation under “Video Lectures.” For those hosting their MOOC on edX, transcripts are the responsibility of the course team. For a fee, transcription companies (Medienzentrum will provide a list upon request) can produce timed transcripts that can be downloaded in a variety of formats. Alternatively, course team members can create transcripts themselves once the video has been uploaded to YouTube by selecting “closed captioning” under the YouTube Video Manager details for that specific video. The process is described in the edX documentation under section 7, specifically section 7.4.

Guidance for Learners

Best practices in online course design indicate that, because students online do not receive the spontaneous guidance and clarification that they are afforded in a traditional classroom, explicit guidance (instructions and navigation especially) should be available for them throughout their online course experience.

We recommend, as a minimum, making sure that all activities are prefaced by an explanation of what the purpose of the activity is and what your expectation is for students’ participation. Navigational guidance can also be given by concluding each page with a brief description of what students should do next, and likewise ensuring that the front page (where students land when they enter the course) includes links and instructions on where they should go next to participate in the course (both for new and returning students).

Data Backup

As you develop your course, please keep data backups in mind. If you are keeping your instructional materials locally on a computer, consider making an occasional backup on TUM cloud storage (http://www.it.tum.de/faq/it-dienste/dateidienste/). Likewise, if you have single copies of anything in the cloud, please consider occasionally downloading those materials. Because the raw, unedited video files you will be producing will require significant storage space, it is especially important to plan ahead for storage back-up for those videos.

On edX, you can back up your entire MOOC by going to studio.edx.org, logging into the course, and selecting Tools —> Export. On Coursera, backups of MOOCs are not available, so it is especially important to back up the course assets individually.

Writing Assessment Questions

Assessment questions offer students the opportunity to practice what they have learned and demonstrate their learning. A combination of formative and summative assessments is very appropriate for a MOOC, and MOOC platforms allow instructors to pose both graded and ungraded questions.

The different platforms allow for different question types. (See Appendix A for a list, or visit the platform documentation.) Most questions written for MOOCs are closed-ended and "machine-gradable," given that hand-grading open-ended questions is feasible only within a peer review context. Vanderbilt University's Center for Teaching offers very useful tips on writing effective closed-ended (specifically, multiple-choice) assessment questions: https://cft.vanderbilt.edu/guides-sub-pages/writing-good-multiple-choice-test-questions/.

Formative & Summative Assessments

Formative assessments are (generally) ungraded questions that allow students to practice what they have learned and make low-cost mistakes that lead to better understanding.

Summative assessments are (generally) graded questions that sum up a student's performance at the end of a unit or course.

Source: Center for Teaching, Vanderbilt University

Calibrating the Grading Calculation

Your grading formula will dynamically calculate student grades, showing them their progress along the way, and ultimately serving as the determiner for whether or not they receive a certificate.

In edX, **passing or not passing is determined by whether a student's final grade meets a specific threshold you set, regardless of their performance on individual assessments. In other words, they could fail an assignment but still pass the course**. To set up your grading policy, you can first define certain types of assessments, such as "homework" and "final exam" under "Settings." You then identify what percentage of students' final grade each assessment type should be. Then you set the "graded as" setting for each set of questions to indicate which assessment type they should be graded as.

In Coursera, **passing or not passing is determined by students' meeting your minimum grade for each individual assignment, which you may modify for each assignment.** To set up your grading policy, you will first need to set up your graded items (quizzes and exams) and identify the passing grade for each. Once you have done that, you can establish your grading calculation under "Grading Formula" by selecting a percentage of the final grade that should apply to each set of graded items.

An example scenario of each of these grading calculation schemes in action is available in Appendix A.

Settings for Assessment Questions (edX)

In edX, there are a number of parameters within each question that can be modified, found within the "settings" of the question. It is possible to assign different weights for different questions within a set, and it is also possible to increase the number of attempts a student has to answer each question correctly. Other parameters that might be of interest are available in the edX documentation.

3.1.1 Development Checklist

Please use the following checklist as a guidance document. You may also want to come back to it later, once you have some materials developed, to check your progress on these items.

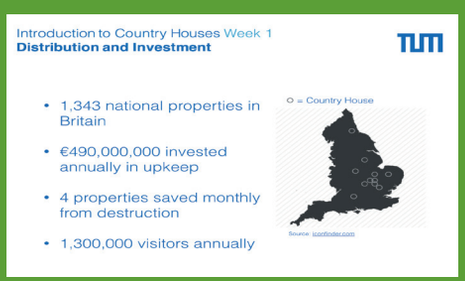
Item	Description	Rationale
Internationalized language	Written & spoken language has a global audience in mind.	Our first course survey revealed that approximately 1/4 of students were still learning English, with beginning or intermediate proficiency.
Video pace	Video lectures have high-quality sound and are reasonably paced for non-native language speakers.	While some video players allow users to speed up or slow down the lecture video, as a baseline the speaker's tempo should be moderate and enunciation clear.
Video length	Videos aim to be between five and ten minutes long.	Research done by MOOC providers have found that videos no longer than 8-10 minutes long have the greatest rates of engagement and follow-through.
Closed captioning/ transcripts preparation	All videos include a quality timed transcript as closed-captioning and as a download option.	For accessibility purposes, a minimum standard of which is required contractually, all videos should include a transcript for those who require hearing assistance or simply prefer to read the lectures.
Screen-reader accessibility	All readings are able to be read by a screen reader.	HTML text (in the platform or on a website) is accessible; PDFs should be processed to make them accessible.
Access of materials	All instructional materials are open access, or approved for use and appropriately cited.	Credits should be given to any external resource used, whether open access or with permission.
Grading policy	The grading policy and formula for the course, including passing grade, is clearly stated and visible.	Students should understand clearly how their grade will be calculated and what level of achievement they are expected to meet to receive a passing grade and a certificate.
Syllabus	A syllabus is available and easy for students to find.	A syllabus provides a single, printable reference point for learners regarding expectations, schedule, grading scheme, and more.
Due dates	Due dates for assignments are clearly stated and visible.	A course calendar should be made readily available for students so that they can effectively manage their time in the course.
Instructions for assignments	All assignments are preceded by instructions.	Students encountering an assignment should know what they are expected to do and how they can succeed on that assignment.
Navigation	The course includes a written and/or visual cue of where students should go next on each page.	In order to support online learners who come with different levels of experience with interfaces and platforms, guidance can help them stay on the instructional pathway and not get lost.
Guidance	Videos and activities are prefaced with a description of what the student is expected to do with and learn from that video or activity.	In principle, for a global audience and an online course, it is preferable to err on the side of providing too much guidance than too little.
Branding cues	The course includes at least one branding element on each page.	Ideally, and as far as allowed by the platform, each page should showcase at least one TUM branding element, including TUM colors, logo, or other item.

3.2 Checkpoint: Slides Preparation

Purpose of Checkpoint

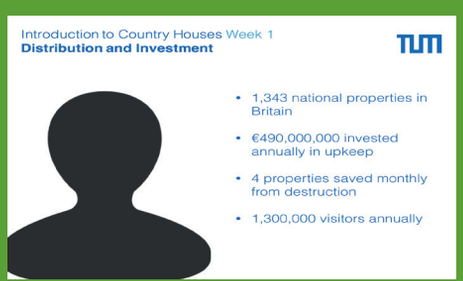
If you are planning to use slides in your lectures, this checkpoint is for us to provide you with feedback on those slides in advance of your filming sessions. Below are only a few options to consider; in fact, depending on your content, you might not even use slides. You might illustrate concepts on a tablet, or film your lectures at a location of your choice. We are happy to meet with you or simply discuss over email, whichever is most convenient for you.

The following “recommended” and “not recommended” slide examples are based on our observations and experiences with MOOCs. One important point to keep in mind is that many students watch the videos directly in the courseware, that is, embedded within their browser window. Viewed on a typical laptop screen, this video size can range from 15x20 cm all the way down to 7x10 cm.



Recommended
This slide contains a legible graph visual and acts as a complement to the lecture. It does not attempt to cover everything the lecturer says, but it reinforces the critical points.

Not recommended
In this example, fonts are too small for students to read. The slide attempts to act as a transcript of the lecture, and in doing so it no longer complements the lecture but overwhelms it.



Recommended
If you plan to have yourself superimposed on the slides, consider that when designing your slides. Medienzentrum can help you design a slide deck that will be optimally sized.

Not recommended
Slides that may be perfectly legible at normal size may end up being too small to read when shrunk to fit beside you, if you want to appear in the video.

When?

While you are developing your lecture slides, but before you have begun filming

Date

Let’s be in touch regarding this step around

_____
Date

3.3 Process: Announcing Your MOOC

This chapter serves as a guide to the process of announcing a course on your MOOC platform of choice.

Making the Announcement

A course announcement should take place once the course outline has been established and development of the course is well underway. In order to give students sufficient time to register for the course, an announcement should be made several months in advance of the course, up to 6 months in advance. This step does not need to be rushed; edX suggests that a course announced even 2-3 months before launch will see excellent enrollment. Once the launch date has been announced, it should not be changed, so it is important to be sure that the timeline is feasible (that is, that the course will be complete before the course begins).

Medienzentrum will work with you to prepare the announcement, coordinate with the Communications office on campus to announce the course through TUM, and liaise with the MOOC provider to make the course available.

You will also need to create a **promotional video**. This short video (maximum 3 minutes long) should be conceptualized as a marketing piece. It will be used on your course "about" page on the MOOC platform to help draw students to the course. Medienzentrum is happy to consult with you on this video.

3.4 Checkpoint: Course Announcement

When?

Once filming is underway and a development completion date can be projected

Date

Let's be in touch regarding this step around

_____

Date

Purpose of Checkpoint

The purpose of this checkpoint is for us to discuss any remaining questions you have about the assets needed for announcement and to make sure all materials are ready to be shared with edX or Coursera for the announcement. We are happy to meet with you or simply discuss over email, whichever is most convenient for you.

What will we discuss at this checkpoint?

Please share with us the materials you have prepared for the announcement.
A description of each of these elements, which we will need to send to the MOOC provider, is available on the following page.

Course Title and Description
Course Type (Self-Paced, Session, etc.)
Course Beginning and End Dates
Course Prerequisites (if applicable)
Course Team Biographies
Estimated Amount of Effort (for students)
Finished Promotional Video
Course Image

3.4.1 Course Announcement Checklist

We hope the following checklist is a helpful guidance document for you as you prepare the course announcement with us.

	Item	Description	Rationale
○	**Course title**	The course title clearly indicates the course topic.	A title should grab the attention of a student scanning for a particular topic. Ideal titles are creative and compelling while also conveying the subject.
○	**Course description**	The course description is inspiring and relays what the student will learn.	The course description is one of the main decision-making points for a student. Students should be able to see themselves taking the course, feel enthused about the topic after reading the description, and clearly understand what they will learn in the course.
○	**Course type**	The course type refers to whether you will run your edX course as a session or a self-paced course, or your Coursera course as a self-paced course or an auto-cohort course.	Session-based courses have a set beginning and end date, and students progress at the same pace. Self-paced courses are open to students to enroll anytime and work on their assignments anytime. Auto-cohort courses are a hybrid of the two, with students progressing at a suggested pace.
○	**Course prerequisites**	The course description clearly states prerequisites and offers resources for gaining them.	Students should understand what prerequisite knowledge is required to succeed in the course. In order to give them the chance to gain this knowledge before the course, consider referring to resources that will help them prepare, including links to on-demand MOOCs that cover the prerequisite topics.
○	**Course team**	The course team list includes a personal introduction to each team member (including qualifications for the role) and a description of how learners can expect to interact with them in the course.	Providing a personal biography for each team member helps boost the sense that this is a learning community. Mentioning qualifications or experience in the relevant area deepens the credibility of the course, while describing how learners will interact helps set expectations and boost excitement for those interactions.
○	**Estimated amount of effort**	The course listing includes a careful estimate of how much time students should expect to spend in the course.	Learners can be unhappy when they find that the amount of time a course requires is more than expected. Estimates should be made carefully, and err on the side of overestimation.
○	**Registration options**	The course listing includes information on how and at what levels (verified, etc.) a student can sign up.	If a paid certificate option is available, the description should provide students with the final date for signup (if appropriate), the difference between it and a free certificate, what to expect when signing up, and a link for more information.
○	**Course graphic**	The course graphic should be visually attractive and represent the course content.	Each platform requires a graphic to represent the course in the course catalog. Medienzentrum can consult with you on possible course images.
○	**Course dates**	The course dates identify both when the course will become available and when it will no longer be available.	The course launch date is the day the course material will become available to students for the first time, no matter whether they are taking the course as a session or self-paced. The end date does not need to be officially announced, but should be identified for internal purposes.

3.5 Checkpoint: Promotion Meeting

When?

Once the course has been announced, and no later than 2 months in advance of launch

Purpose of Meeting

At this point, with the course design complete, course development underway, and the course announced, it is time to promote the course as widely as possible. Wide promotion and announcement of the course well in advance of launch increases the chances of high registration numbers.

Both edX and Coursera will list the course on their site, and at their discretion they may also promote the course further by featuring it in social media, including it in a thematic lineup in their email updates to learners, or featuring it on their homepage. They encourage course teams to participate in the course promotion process as well by sharing the course through their own institutional and professional networks. In this meeting, we will discuss what channels you might be able to activate, and design plans for continued promotion of the course throughout development and the live course session.

What will we discuss in this meeting?

Let's discuss the following at this meeting:

Channels

Institutional Press Release and Media
Medienzentrum will work with you to prepare information to send Corporate Communications for a potential press release and social media promotion.

Professional Networks
Are there organizations, foundations, certifying bodies, or other interest groups who would like to learn about the MOOC? Targeted emails from you or a team member can help spread word of the MOOC and increase enrollments, and personal emails to "influencers" is also recommended.

University Mailing Lists
Students who sign up for a TUM course are automatically enrolled to receive institutional emails, unless they opt out. When a new course is announced, we can promote the course via that mailing list channel.

Coursera or edX Promotion
Your platform of choice will post the course under TUM's institution profile, and the course will be searchable in the course catalog. They may also decide to include the course on the homepage or in an email newsletter to students.

Social Media for the MOOC
If you have interest in developing a social media presence (Twitter, Facebook, etc.) for your MOOC and have solid plans to maintain it, we encourage you to engage students through that channel as well.

Events and Conferences
Consider if there are any upcoming events that would provide opportunity to promote the course through print material or an announcement.

Audiences

Do you have any further ideas for how we could target the following groups? Do you have groups to add to this list and ideas for reaching them?

General Public
Students Enrolled in Other TUM MOOCs
Faculty, Staff, Students at TUM
Potential TUM students
TUM Alumni
Peers at Other Universities
Professionals in the Field

Date

Let's be in touch regarding this step around

_____
Date

4. DURING THE 1-2 MONTHS BEFORE LAUNCH

4.1 Process: Quality Assurance

Review for Content

This review is best completed by the instructor or a senior TA with significant content knowledge.
A review for content focuses on the instructional content.

- Are there any accidental errors or typos in the examples or calculations?
- Are all complex terms defined?
- Are the answers to all questions coded correctly?

Review for Course and Settings

This review can be completed by any team member familiar with the MOOC platform and the parameters of the course. A review for coding and settings involves going through the settings of the course as a whole and each individual question to make sure no important features have been missed.

- Are the dates of the course correct?
- Is the passing grade set?
- Are the numbers of graded subsections tallied correctly and entered in the grading formula (edX only)?
- If multiple attempts for each question are intended, are they all entered (edX only)?
- Are all items labeled? (On edX especially, the name of "components" should be checked if you would like them to be more descriptive than "Text" or "Video," the defaults.)
- Are all links functioning as live links to the correct destination?

Review for Grammar and Detail

This review can be completed by any team member with an aptitude for proofreading in the course language.
A review for grammar and detail entails checking for typos, watching for punctuation errors that could cause confusion, checking for consistency across the course, and checking that guidance students expect (for example, an introduction to each activity) is available consistently across the entire course.

- Are there any typos or grammatically incorrect sentences?
- Is the formatting (including fonts) tidy and consistent?
- Are all guidance elements (e.g. introductions to each activity or navigation tips) available consistently throughout the course?

Review for Accessibility/Internationalization

This review can be completed by any team member, but ideally a team member whose primary language is not the language of the course.
A review for international accessibility involves reviewing content to identify idioms that might confuse students who are still learning the language of the course, as well as ensuring materials meet the needs of students who require accommodations. Please note: Teams using Coursera do not need to run this review as Coursera will take care of it.

- Are the videos available for download for those who cannot access YouTube?
- Are the transcripts available for download for those who need to read them?
- Are captions ("CC," or closed captioning) available on the videos?
- Are PDF readings machine-readable? (If you highlight the text, does your computer recognize it as text instead of as an image?)
- Do all images embedded on the site include a text alternative or caption, and images in any readings a text caption?
- If there are idioms in the written material, can they be changed?

Beta Student Review

In edX, it is possible to identify someone as a "beta tester," in which case they will be able to view the course in advance in the exact way a student would. In Coursera, the same function is served by admitting student testers as "private users." In both cases, it is useful to have at least one person do a fast, "global" final review of the course, from beginning to end, to make sure nothing is missing.

4.1.1 Quality Assurance Checklist (Additions)

Please consider using the checklists throughout this handbook as the quality assurance checklist. In addition to those, here are a few additional items we would like to draw your attention to.

	Item	Description	Rationale
○	**Video download**	Videos are all available as downloads.	Students in some countries are unable to stream YouTube, and some students prefer to view the videos offline on their mobile devices.
○	**Downloadable slides**	Slides/handouts are available as downloads.	For accessibility purposes, slides should be available as downloads, especially if they are difficult to read in the videos.
○	**Multi-level objectives**	Course includes both course-level learning objectives and module-level objectives.	Aligning course objectives with module-level objectives helps keep instruction (filmed lectures and other materials) organized and coherent.
○	**Grading settings (edX)**	Questions' settings are updated for item weight and attempts, if applicable.	Settings that are not consistently set can confuse students and lead to many questions on the discussion board.
○	**Additional resources**	The course includes a list of additional resources.	For students who are interested in learning more, it is a helpful gesture to include a list of resources (for the entire course, or for each topic).

4.2 Checkpoint: Quality Assurance

When?

When the entire course is in draft form on the MOOC platform

Date

Let's be in touch regarding this step around

_____

Date

Purpose of Checkpoint

Please note: It is important to have the full course available at this time, several weeks in advance of course launch. The purpose of this checkpoint is to confirm that the course team, including a Medienzentrum representative, has had a chance to review the course, and to talk through any challenges that may have come to light during the review.

What will we discuss at this checkpoint?

At this checkpoint, we will discuss the following reviews, which would ideally all have taken place before this meeting. Together we can brainstorm whether anything else needs review.

Content Review
Are there any questions we can help with here, such as how to fit a particular type of question you want to ask into a format that is possible on the platform?

Coding and Settings Review
Any remaining questions about settings?

Grammar and Content Review
Any questions about how to format text, images, or links in the platform?

Accessibility Review
Any remaining questions about accessibility and best practices for accessibility?

4.3 Process: Course Communication Planning

This chapter serves as a guide to the process of preparing to communicate with students in the course via multiple channels.

Pre- and Post-Course Surveys

We have developed a pre- and post-course survey that we would be grateful if you include as a link in your course. Questions may, of course, be added according to your interest, and we are happy to work with you on developing them. Likewise, some of the questions in the survey should be customized to fit your course.

The results of these surveys are incredibly helpful to those of us supporting MOOCs as they help us understand who is taking the course and why. This, in turn, is valuable information to share with instructors during the course design stage. **We will work with you to develop and launch these surveys.**

Email Communications

Sending students occasional email announcements or remarks is an important way of motivating students to keep up in the course. Both edX and Coursera allow instructors to send emails to the student body. In edX, you can compose and send an email immediately; in Coursera, you may compose and send emails immediately as well as pre-define emails that will go out to students when they enroll in the course or complete the course. We recommend planning to send the following emails, at minimum:

Course Reminder Email (Before Launch)

The course reminder email should go out a few weeks ahead of the course launch, reminding students when the course will launch and inspiring excitement for the course. You might also send out the pre-course survey link at this time.

Weekly Email (While Course Is Live)

A weekly email is an excellent way to keep in touch with students, summarizing the **most important conversations from the week before** and letting them know **what they will be doing in the week ahead.**

Course Welcome Email (Launch Day)

A course welcome email should be sent on the day the course launches and might, for example, introduce the students to the course team and let them know what they will be doing that week and where to go to begin.

Course Close Email (Last Day)

The course close email might summarize the experience from your perspective, thank students for their thoughtful contributions to the course, and list out next steps (such as when certificates will be available). Remind them to make sure the names on their accounts are written out as they should appear on their certificates.

Please note that there are certain logistical items that students often use the discussion board to ask, such as questions about enrollment, certificates, homework due dates, and grades. These questions can be addressed in emails when appropriate to inform students as widely as possible. You might also use the discussion board to “pin” important announcements or discussions to the top of the discussion board for a short time. You can also include announcements on the course syllabus or create an “FAQ” page for the MOOC.

Introductions

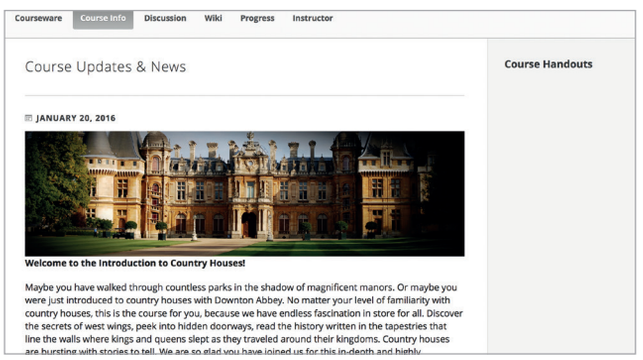
In order to develop a sense of community, you could create a page about the Course Team on your course that introduces each Course Team member with a photo and a brief biography. You might also ask students to introduce themselves on the discussion board once the course has begun.

4.

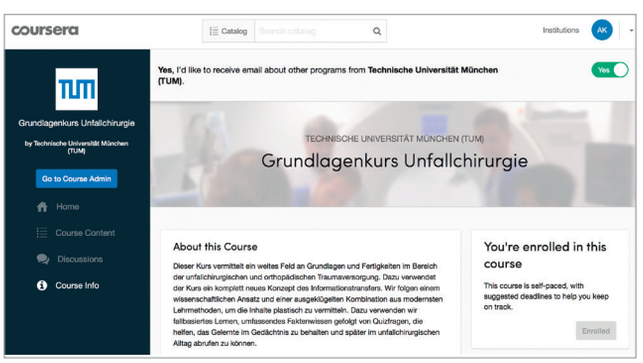
Landing Page

The landing page is the first page students see when they enter the course from their dashboard in your chosen course platform. The landing page presents an important opportunity to orient students to the course and make sure students know how to get started, so the message that you post here should be both welcoming and useful.

edX Landing Page



Coursera Landing Page



Discussion Board

The course discussion board is the place in the course where students can engage in discussions with each other. It is also the place where the Course Team can interact with students, clarifying their misunderstandings, answering their questions, or helping direct them to answer each others'.

Considerations

As you make your course communication plans, the discussion board should be one of your primary focal points. What are your plans, as the instructor, for engaging with students on the discussion board? Have you strategized with your Teaching Assistants about their plans for interactions on the discussion board? (For example, will one be responsible for technical/logistical questions, and one for content questions? Or will both be responsible for both types of questions, but one works Sunday-Wednesday and the other Thursday-Saturday?) If you are running your course on edX, have you considered appointing Community TAs to support the discussion? (Alumni you know who are taking the course could be excellent Community TAs, for example).

Please note that both platforms have a number of special features for the discussion forum, such as pinning (moving a discussion to a prominent position), editing, and deleting posts. Likewise, students in the course can "report" questionable posts, so you or the TAs will want to occasionally check those posts to "unreport" or delete them. In addition, edX offers an "endorse" feature (saying "this answer is correct") for administrators on the discussion board.

Primary Types of Questions from Students on the Discussion Board

Content Posts
These posts might include questions about the content or errors that students believe they see in calculations. They may ask for help understanding why one answer is correct and not another.

Logistical Questions
Logistical questions deal with parameters that you have set, such as due dates for assignments or the date that the course will close. Students might also ask if they can receive extra credit or extra time to complete an assignment.

Technical Questions
These questions deal with the platform. Students might say that they cannot click a button or that one page says "not found." In some cases, the problem can be solved on our end. If no solution is immediately available, we will contact the platform provider on your behalf for an answer.

Escalation Plan

It is also worth keeping in mind that, on occasion, a post may appear on the discussion board that requires an urgent response. Deeply offensive posts may require deletion and a warning to the student, for example, or a student may notice that, for example, students can no longer see their progress charts. In cases such as these, a quick resolution is important. You might plan ahead for these scenarios by identifying what the team member who notices these should do. Should they email you? Or respond on their own, then alert you? Having a set plan will help create efficiency and avoid confusion should any major issue arise.

Discussion Board Roles (edX)

In order for you and your TAs, as well as any other community TAs, to have a "Staff" badge appear next to your name on the discussion board, you will need to assign yourself and them as "Discussion Forum Admins" under "Membership" in the "Instructor" tab on edX.

Resources

Both edX and Coursera offer tips for engagement on their discussion boards.

edX:
Sections 12.3-12.5, http://edx.readthedocs.org/projects/edx-partner-course-staff/en/latest/manage_live_course/index.html
https://partners.edx.org/running-your-course/communicating-with-learners (free account needed), and
https://partners.edx.org/resources/discussion-forum-moderation-and-best-practices (free account needed)

Coursera:
https://partner.coursera.help/hc/en-us/articles/203597949-Building-Course-Community

Finally, a helpful list of discussion board practices for both instructors and students can be found in "Fostering a Learning Community in MOOCs" (Hmelo-Silver, Rose, Levy 2014, http://ceur-ws.org/Vol-1137/LAK14CLA_submission_8.pdf).

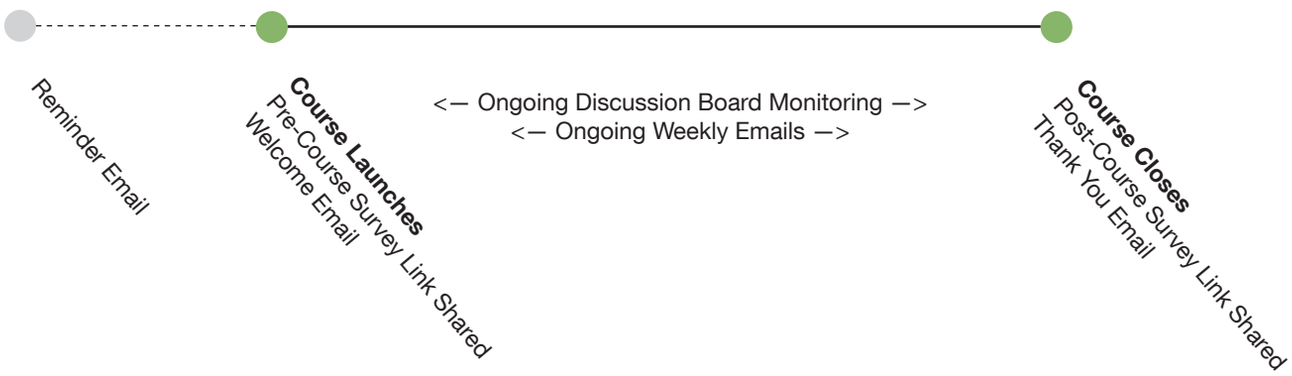
4.3.1 Course Communication Checklist

Please use the following checklist as a guidance document.

Item	Description	Rationale
Reminder email	An email reminding students of the course launch is drafted.	Students who signed up for the course months ago may need a reminder that the course is about to launch.
Welcome email	An email welcoming students to the course is drafted.	An email on the day of course launch marks the occasion and sets a communicative tone for the course.
Weekly emails	A plan for emailing students throughout the course is established.	Emails throughout the course can help students stay on track, give them direct access to important updates, and keep them motivated.
First page orientation	The “landing page” of the platform clearly states next steps.	To avoid “losing” students who decide to enter the course, make sure they know how to take the next step and begin.
Introductions	Course team members are introduced on page or in email, and students are encouraged to introduce themselves.	To help create a feeling of shared purpose and community in the course, consider starting the course with introductions.
Instructor presence	Instructor has planned how often he/she will visit the discussion board.	Setting expectations about what you will respond to on the board and what your TAs should respond to will help with efficiency.
TA presence	Teaching Assistants have planned how often they will visit the discussion board.	Setting expectations about what you will respond to on the board and what your TAs should respond to will help with efficiency.
Escalation plan	An escalation plan for any significant issues on the discussion board is in place.	While it is unlikely, you may find that a student on the discussion board makes a highly offensive comment or a major technical issue arises. For such a case, have a plan with your TAs. Should they escalate to you, and you decide whether to escalate to Medienzentrum?
Surveys	Pre- and post-course surveys are ready to link to, the pre-course survey at the beginning of the course and post-course after the final day.	Medienzentrum can assist in preparing these surveys.

4.3.2 Course Communication Timeline

The following is a visual reminder of some key milestones in course communications for a MOOC.



4.4 Checkpoint: Communication Plan

Purpose of Checkpoint

The purpose of this checkpoint is to run through course communication plans and assist with any remaining questions about the logistics of communicating with students, such as using the email tool or moderating the discussion board.

What will we discuss at this checkpoint?

At this checkpoint, it would be helpful to discuss your plans for the following:

Survey
Is the survey ready to go? Medienzentrum will provide assistance with the survey.

Email Plan
Any remaining questions about how to email students, sending trial runs of emails, or what to write in emails?

Certificates Date
For session-based courses, have you identified a date after the course concludes that certificates will be made available to students?

Discussion Board Plan
Do you have any questions about moderating the discussion board that we can help with? For example, do you feel comfortable with the procedure for screening flagged posts and making sure all staff members are enrolled in the course as discussion admins?

When?

One or two weeks before the MOOC launches

Date

Let's be in touch regarding this step around

Date

5. LAUNCH AND FOLLOW-UP

5.1 Launch

Tips for Launch

The following are a few tips based on previous experience.

- Make sure your release date and time are as you want them to be. If they are not, change them in advance of course launch. You could consider including the UTC time of course launch in your "reminder" email to students.
- Double-check that your grading scale is correctly calibrated, and that, in edX, the "total number" of each exercises exactly matches the number of subsections that you have set as "graded as" that type of assignment.
- Be prepared to be especially active on the discussion board during the first few days. Not only is it important to make sure the students know the course team is active, but during this time, any issues with both the first week and the global settings for the course that need to be addressed may become apparent.

Things to Keep in Mind during the Course

The following are useful points to keep in mind as you run the course.

- Students are joining the course from all over the world. This means that their time zones will differ widely, and the times that they participate in the MOOC will likewise vary. Whenever there are deadlines, please consider erring on the side of being overly explicit about the time zone.
- Likewise, please keep in mind that students join the course with different levels of familiarity with English (or German) and from different cultural backgrounds.
- Some students will ask for special concessions. For example, some students may miss a deadline due to travel, family emergencies, or even blackouts in their region. The best way to handle these requests is with a clear and fair policy outlined early on in the course. (Normally, it is not technically possible to make individual concessions, such as extending the deadline for a particular student.)
- If there is a problem with course material, such as a mistake or a part that doesn't release as expected, students will mention this on the discussion board. It is a good idea to check the discussion board regularly the first day and a half after new material has been released.

5.2 Checkpoint: Debrief Meeting

Purpose of Meeting

Once the course is complete, we would like to meet with you to "debrief" on the entire process of building and running the MOOC.

What will we discuss at this meeting?

At this meeting, we will discuss the process of building and running the MOOC, and reflect on its successes and challenges. Some questions that we might address include:

- What went well? Why?
- What could be improved?
- What do we know now that we didn't know before?
- How can we share what we've learned with others developing MOOCs at TUM?

We will also discuss the lifecycle of the course materials (such as data backups and data security) and what, if any, research questions you might have that we could consider pursuing with the data we have.

When?

One week after the course has concluded

Date

Let's be in touch regarding this step around

_____

Date

Links to Resources

Platform Documentation

edX Documentation
http://edx.readthedocs.org/projects/edx-partner-course-staff/en/latest/

edX Platform Updates
http://edx.readthedocs.org/projects/edx-release-notes/en/latest/

edX Insights (Analytics Tool) Information
http://edx.readthedocs.org/projects/edx-insights/en/latest/

edX Student FAQ and Learner Guide
https://www.edx.org/about/student-faq
http://edx.readthedocs.org/projects/edx-guide-for-students/en/latest/

Coursera Documentation (by registration)
https://partner.coursera.help/

Useful Commentary on MOOCs

"Experiences and Best Practices in and around MOOCs", an issue of eLearning Papers from OpenEducationEuropa:
http://www.openeducationeuropa.eu/en/paper/experiences-and-best-practices-and-around-moocs

A video from Professor Tina Seelig from Stanford on her experience teaching a MOOC:
https://www.youtube.com/watch?v=IC_ZT00fasY

A TED talk playlist from MOOC leadership on the value of MOOCs and emerging practices:
https://www.ted.com/playlists/141/moocs_101

"Bringing the Social Back to MOOCs,"
an article from the EDUCAUSE Review (2015):
http://er.educause.edu/articles/2015/6/bringing-the-social-back-to-moocs

Scholarly Research

edX Curated List of Consortium Partner Scholarship
https://www.edx.org/about/research-pedagogy

"MOOC Pedagogy: Gleaning Good Practice from Existing MOOCs", an article in the MERLOT Journal of Online Learning and Teaching (2014)
http://jolt.merlot.org/vol10no1/bali_0314.pdf

Proceedings of the 2015 eMOOCs conference:
http://www.emoocs2015.eu/sites/default/files/Papers.pdf

Quality Assurance for Online Courses

Quality Matters is a US-based organization that provides guidelines and peer review services for quality assurance reviews of online courses. Their Quality Matters Higher Education Rubric is a comprehensive list of critical components for online courses, and many of the checklist items in this handbook are loosely based on the QM Higher Education Rubric.
https://www.qualitymatters.org/rubric

Sources on Technology-Enhanced Teaching and Learning

The New Media Consortium is an online community of higher education institutions. They put on events and publish research:
http://www.nmc.org/publications/

It is especially worth pointing out that the New Media Consortium creates a "Horizon Report" every year that looks at the future of higher education and highlights emerging trends that it believes will be important innovations for higher education:
http://www.nmc.org/publication/nmc-horizon-report-2015-higher-education-edition/

EDUCAUSE is a non-profit based in the United States that curates and creates important scholarship and ideas at the intersection of technology and education:
http://www.educause.edu/

EDUCAUSE offers a series of briefings on important technologies for teaching and learning called "7 Things You Should Know About":
http://www.educause.edu/research-and-publications/7-things-you-should-know-about/7-things-you-should-know-about-learning-technology-topics

e-teaching.org is German-language portal for resources and ideas on digital techniques for teaching in universities. In addition to offering a newsletter that highlights the latest research in the field, they offer a feature on MOOCs and the history of MOOCs in Germany. They have also assembled resources on copyright, data protection, and other topics important for teaching in Germany.

Appendix A: Assessments in edX & Coursera

Please note: this list was up-to-date as of printing. Please consult the platform's documentation for the most up-to-date list.

edX

Certificate Types

edX offers Verified Certificates to students who pay a fee and pass the course successfully. Students may take the course for free, but will not receive a certificate. Students who wish to receive a Verified Certificate but cannot afford one may apply for financial aid.

Verified Certificate
Verified certificates are certificates that cost a modest amount (to be chosen by the university; TUM currently charges 49$) and include a few verification steps for students, including taking two photos (one of themselves, one of their IDs). For courses that are running on a specific schedule (as opposed to self-paced courses), universities are asked to identify a date after which students can no longer sign up for a Verified Certificate. This measure is for fairness, to ensure that students who pay will be reasonably able to achieve a passing grade. Students who cannot afford the fee may apply for financial aid through edX.

Grading Settings

An instructor will create "global grading settings" for the course that indicate what the passing grade for the course is. She will also decide how the grade will be broken down into different assignment types and how those assignment types will be weighted.

Individual Question Settings
Each individual question, no matter where it is in the courseware, can be set to "not graded" if the instructor wishes it simply to be a practice exercise. The "not graded" setting will override the grading settings for that particular question. Each individual question can also be weighted, allowing for certain questions to have greater impact on the student's final grade for that subsection.

Assessment Options

edX provides 21 different question types for assessments.

Questions of Choice
edX offers the following question types that are generally applicable for any subject and ask students to choose from a pre-defined selection of choices:
- Multiple choice (with or without feedback/hints)
- Checkboxes (with or without feedback/hints)
- Dropdown (with or without feedback/hints)
- Image mapped input
- Drag and drop

Questions of Input
The following question types are available, generally applicable for any subject and ask students to create their own answers without seeing any available options:
- Text input (with or without feedback/hints)
- Numerical input (with or without feedback/hints)
- Math expression input

ORA/Qualitative Review Questions
edX also offers a "peer assessment" tool that allows instructors to choose any or all of a student training step, a peer review step, and a self-assessment step. Instructors are asked to build a rubric to accompany both peer review and self-assessment and guide students in the review process. Student training is also available to help establish a common foundation for evaluation.

Custom and Specialty
- Circuit schematic builder
- Molecular structure
- Custom Javascript display and grading
- Custom Python-evaluated input

New Releases/Upcoming

edX has also released a roadmap of coming features.

Randomized content blocks
Instructor can offer randomized problem sets to students. These questions can be drawn from a library of questions. Currently available.

ORA data download
An easily downloadable collection for peer assessment questions is planned. No specific timeline available.

Course prerequisites and entrance exams
Beginning soon, courses will be able to require a prerequisite course or entrance exam (or both). Coming soon.

Digital badges
Students will be able to earn shareable badges along with course certificates. No specific timeline available.

Coursera

Certificate Types

Coursera offers "Course Certificates," which require payment (TUM currently charges $50). However, students who have applied for and been approved for financial aid through Coursera will be able to earn a cost-free certificate. Coursera does not require that courses offer certificates, and students who "audit" a course will not receive a certificate even if they complete the course requirements. If a course does choose to offer a certificate, students will be asked to re-verify their identity before taking each assessment, and they must meet the designated minimum grade threshold (through unlimited tries) to receive a certificate.

Certificates for On-Demand Courses (courses in which students can enroll at any time) and Auto-Cohort Courses
Instructors must enable certificates if they would like them in their courses. Coursera must approve the addition of a certificate to each course.

Specialization Certificates
Students may receive a Specialization Certificate if they complete every course within a designated specialization and complete a capstone project.

Grading Settings

Students must pass each individual assessment, which can be given its own custom passing grade, to pass the course.

Individual Question Settings
In Coursera, all questions within a type of assessment (Quiz, Programming Assignment, etc.) inherit the settings of that type of assessment. Assessments may be ungraded (formative/practice) or graded. In-video quizzes are always ungraded. Instructors can limit how often a learner may resubmit work to one time per day, one time per week, etc.

Assessment Options

*Coursera provides 11 different question types for assessments. Certain questions are available for quizzes (designated with a *), while others are available as homework (graded or ungraded) questions only. Quizzes may also be built within a video, but in-video quizzes cannot count toward students' grades.*

Questions of Choice
Coursera offers the following question types that are generally applicable for any subject and ask students to choose from a pre-defined selection of choices:
- Radio buttons/single choice with feedback
- Checkboxes/multiple answer with feedback
- Dropdown with feedback

Questions of input
The following question types are available, generally applicable for any subject and ask students to create their own answers without seeing any available options:
- Short answer input with feedback
- Single numeric input with feedback
- Regular expression questions
- Math expression questions
- Multiple numeric questions
- Multiple short answer questions

ORA/Qualitative review questions
- Peer review
- Custom/speciality
- Programming Assignments

New Releases/Upcoming

Coursera has released a roadmap of coming features to partners.

Sequential unlocking of course content
Content in on-demand courses can unlock as students master previous content. Expected soon.

Scenario Applying Sample Grading Calculations

In edX

In edX, passing or not passing is determined by whether a student's final grade meets a specific threshold you set, regardless of their performance on individual assessments. In other words, they could fail an assignment but still pass the course.

A scenario for an edX grading calculation:

- First, the passing grade for the course defined as 60%.
- Second, assignments defined as "Quizzes" worth 30% of final grade, "Final Exam" worth 70%.
- Third, three sets of assignments identified as "Quizzes," one set of questions as "Final Exam."
- Of those three "Quiz" assignments, one has 10 questions, one has 20 questions, and one has 5. The final has 50 questions.

How this scenario could play out: Each quiz is worth 10% of the final grade (30%/3). A student who gets 8/10 right on the first quiz, 15/20 right on the second, and 5/5 on the third will receive 8/10 of 10% (=8%) + 15/20 of 10% (=7.5%) + 5/5 of 10% (=10%) for the quizzes (so a total of 25.5% out of a possible 30%). If that student gets 25/50 questions on the final exam correct, she will receive 25/50 of 70% (=35%) for the exam. So her total score will be 25.5% + 35% (=60.5%), enough to pass the course.

In Coursera

In Coursera, passing or not passing is determined by students' meeting your minimum grade for each individual assignment, which you may modify for each assignment.

The same scenario for a Coursera grading calculation:

- First, three quizzes and 1 final exam (graded as a quiz) are created.
- Of those three quizzes, one has 10 questions, one has 20 questions, and one has 5. The final has 50 questions.
- The passing grade for each quiz and the final is set at 60%.
- The calculation for final grade for the course is defined as Quiz 1=10%, Quiz 2=10%, Quiz 3=10%, and Final=70%.

How this scenario could play out: Each homework set is worth 10% of the the final grade (10%+10%+10%). A student who gets 8/10 right on the first quiz will pass that quiz; 15/20 on the second, and he will pass that quiz; 5/5 on the third, and he will pass that quiz. If he gets 25/50 questions on the final exam correct, he will receive a 50% on that assessment, and will fail. Because he failed a single quiz/test, he cannot pass the course. His final score will be 60.5%.

Appendix B: Branding Guidelines for MOOCs

Because MOOCs are a such a visible representation of TUM to the world, and because MOOCs are indeed often the first time MOOC learners (and potential students) will have heard of TUM, we believe it is important to make a consistent impression across the courses that ties the MOOCs back to the larger TUM brand.

Course Images

For both edX and Coursera, you will be asked to select a course image that represents the course in the MOOC provider's course catalog and on the informational page about your MOOC. Please feel free to choose any image that best represents the content and approach of your course, but do keep in mind that the image may be shown at smaller sizes as well as large. Therefore, composite or highly detailed images are not recommended. Medienzentrum is happy to consult with you on images.

Colors and Fonts

Within edX, it is possible to use limited inline CSS to customize elements of the instructional material. If you decide to do any customizations to the CSS, we ask that you work within the guidelines of the TUM visual identity. The TUM Visual Identity is fully outlined at https://portal.mytum.de/pressestelle/tum_mit/2007nr2/09.pdf.

TUM Colors

#3770B5
C90 M48 Y0 K0

#0A2B47
C100 M57 Y12 K70

#71A2D3
C65 M19 Y1 K4

#AAC9EC
C42 M9 Y0 K0

#D27127
C0 M65 Y95 K0

#A3AF29
C35 M0 Y100 K20

Course Teaser

Likewise, for both edX and Coursera, a course teaser video will be an important marketing tool for the course. Please consult with Medienzentrum to create a plan for your teaser video.

Course Lecture Videos

We at Medienzentrum are currently working on some simple graphic design standards for MOOC lecture videos, including a standard "lower-thirds" banner and a "TUM" introductory animation. As you think about videos for your course, please do consult with Medienzentrum on a design for your slides early on. We can help you optimize the slides for use in video and bring them into complementarity with TUM branding guidelines.

TUM Fonts

TUM Helvetica Neue 9

TUM Helvetica Neue Italic 9

TUM Helvetica Neue Bold 9

Subheader Small Variant Bold 12

Subtitle or Section Header 16

Headline Bold 21

Giant Headline Bold 42

Making a MOOC at TUM:
A Handbook for Instructors and Course Teams
This handbook is a publication of Medienzentrum, the center for digital pedagogy at the Technische Universität München (TUM), prepared during the Winter Semester 2015/2016 for MOOC teams at the University.

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