Columbia Engineering

CVN Guide:

Create a Successful and Engaging Short Online Course

TRANSCENDING DISCIPLINES, TRANSFORMING LIVES

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Introduction

Dear Faculty,

This guide will give you an overview of how to create a successful and engaging short online course using design principles and best practices.

The CVN team will assist you every step of the way, from design and recording to launching your course.

Thank you,
The CVN Team
production@cvn.columbia.edu

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Introduction

This guide applies to the following 3 types of short online courses:

1. Introductory course (Fundamentals. Audience: Engineers from a different field or first or second-year undergraduate students or first semester Master's students).

2. Advanced course (Deep dive. Audience: Seniors or advanced Master's students or Doctoral students).

3. Executive Education course (High-level content. Audience: Mid to senior level executives).

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Outline

1. **Course Design**
2. Content Creation
3. Recording Guide Tips

Course Design

In this section, we will go over how to construct your course materials using **Backward Design.**

The process is broken down into three steps: **Identifying Desired Results, Determine Acceptable Results,** and **Planning Learning Experience and Instruction.** Backward design will help you keep your online lectures clear and concise.

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Step 1: Identify Desired Results

The first stage of backward design is to decide on your learning goals for the course within your given time limitations. This will help you figure out what kind of curriculum is realistic and achievable for your course.

- What are the big ideas and concepts students should retain?
- What knowledge and skills should students master?
- What should students hear, read, view, explore or otherwise encounter?

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Step 2: Determine Acceptable Evidence

What assessments and performance tasks will students have to complete in order to demonstrate their understanding of the content? There are two questions you should ask:

- How will I know if students have achieved the desired results?
- What will I accept as evidence of student understanding and proficiency?

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Step 3: Planning Learning Experience and Instruction

Finally, it's time to plan and create instructional strategies and learning activities. You can ask yourself the following questions:

- What enabling knowledge and skills will students need in order to perform effectively and achieve the desired results?
- What activities will equip students with the needed knowledge and skills?
- What will need to be taught and coached and how should it be taught in light of your performance goals?

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Design Your Course with the Following in Mind:

- **WHERE** is the unit in the context of your course and **WHAT** is expected?
- **HOOK** all students and **HOLD** their interest
- **EQUIP** students, help them **EXPERIENCE** the key ideas and **EXPLORE** the ideas
- Provide opportunities to **RETHINK** and **REVISE** their understanding and work
- Allow students to **EVALUATE** their work and its implications
- **TAILOR** the unit to the different needs, interests, and abilities of learners
- **ORGANIZE** your course to maximize engagement and effective learning

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Suggested Elements For Your Course:

- Home Page
- Instructor Bio
- Learning Objectives
- Syllabus
- Modules / Units
- Formative and Summative Assessments

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CVN Sample Course

COLUMBIA VIDEO NETWORK

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Welcome to the course!

To begin, please click on Getting Started in the Modules section and review the materials in that module.

If you have any questions about course content, please email the CVN team at production@cvn.columbia.edu or by phone at (212) 854-2315.

We look forward to a great course!

Thank you,
The CVN Team

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Sample Course

Instructor Bio: Add a picture or a video of yourself to personalize your course.

Instructor Bio

Instructor Bio

Professor John Smith teaches at Computer Science Department and he offers courses Artificial Intelligence and Deep Learning. He is one of the core Research Scientist at IBM T.J. Watson Research Center responsible for DARPA funded Speech-to-Speech Translation project. Professor Smith holds a PhD and an MS in Computer Science from Columbia University and a BS in Math & Physics from Bates College.

Sample Course

Learning Objectives: Define what students will learn from this course and the skills they will gain.

Knowledge you will gain

- Understanding what AI means and what is real and not real
- Key Machine Learning algorithms to build AI systems
- How to apply AI for business problems
- The sequence of building AI solution
- AI for various industries such as energy, finance, health care, education, and retail etc.
- How to build an AI team

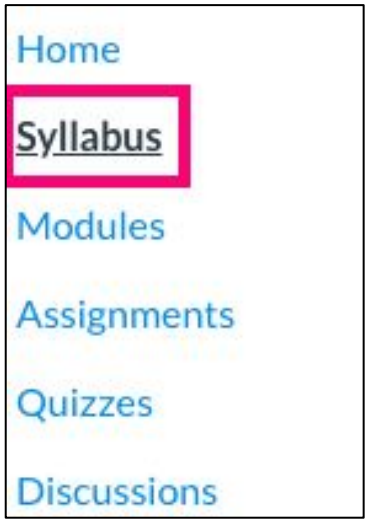
Applicable Skills

- Basic python programming for AI
- Data processing for structured and unstructured data (text and images)
- Implementing text classification and facial recognition system

Sample Course

Course Syllabus: When building your course, identify acceptable evidence of student progress to make sure they are achieving the course's learning goals.

Include activities that will support the learning objectives. You can include them in the syllabus.



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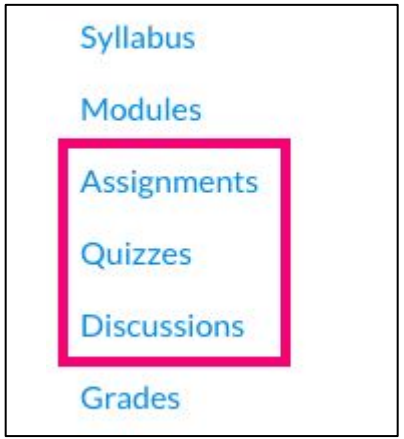
Sample Course

Learning Assessments: Create assessments to make sure students are getting the most out of the course and completing the learning objectives.

Specifically, you can utilize quizzes, self-check questions, projects/assignments, and discussion questions as formative assessment activities.



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Sample Module Layout

Sample module/unit layout includes the following elements:

- Outline
- Video lecture
- Resources
- Discussion
- Learning Activities

We will work with you on determining the optimal structure and learning activities for your course.

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Outline

1. Course Design
2. **Content Creation**
3. Recording Guide

Slides (PowerPoint or Other Software)

Many online courses use slides to guide students along the course content. If you choose this option, please consider the following specs to design your slide layout. We also have a few **Do's and Don'ts** for your presentation design.

An example slide template is also available for download on our website.

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Slide Design

1. Create a title slide that includes your name, title, department and school.

2. Make sure your content is readable in the video by setting your font size to at least 20 pts. **That means your smallest text should be at least 20 pts**.

3. Always give an overview of goals and topics covered in the unit. State your expectations for your students and give them a roadmap of the content you will cover in the next 7-10 minutes.

Slide Design

4. **Key Takeaways -** When wrapping up a unit, summarize the main points you have covered. Encapsulate the main idea of the unit and keep it brief and concise.

- Talking point 1
- Talking point 2
- Talking point 3

Dos vs. Don'ts

1 STICK TO GOALS	1 Don't overload content
2 SIZE MATTERS	2 Don't use font smaller than 20 pt
3 MODULARIZE CONTENT	3 Don't go over 10 minutes
4 OPENING & CONCLUSION	4 Don't dive into content too quickly or end abruptly. Students appreciate a solid introduction and conclusion to a topic

Outline

1. Course Design
2. Content Creation
3. **Recording Guide**

When Recording Videos:

1. Utilize short videos which introduce a single concept using clear language and dynamic slides (i.e.graphics and animation).

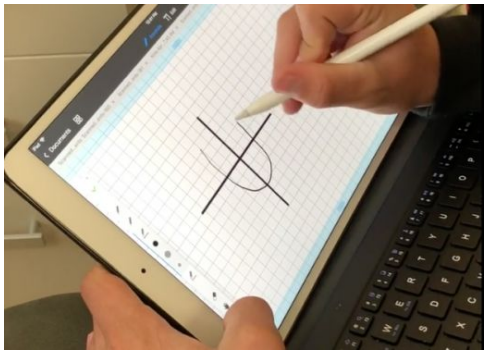
2. When recording, try to “talk” to your students to keep the lecture engaging and naturalistic. Use eye contact and a natural delivery of your tightly scripted content to draw your students in.

3. Your body language (i.e hand gestures), intonation and facial expressions are all effective ways of drawing attention.

When Recording Videos:

4. Use your cursor or Apple pen (with an iPad) to highlight content so that students can focus in on your point.

5. Handwriting a formula (on a tablet) and going through the entire deductive process instead of just talking through it will help your students to understand the content.



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Active Learning & Deep Learning

1. Intersperse videos with brief knowledge checks so learners can test their understanding with low-stakes (ungraded) problems
2. Design mini-case assignments to present opportunities to apply knowledge gained across the module to real world scenarios, deepening learning through critical thinking and application
3. Create well-written discussion prompts following the assignments that prompt learners to reflect upon their answers and share their reasoning with peers

Apply intuitive organizational structure to each unit. Give each section and unit a simple name to help learners easily navigate the course content.

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Resources

Reach out to CVN Instructional Design Team:

production@cvn.columbia.edu

212-854-2315

cvn.columbia.edu

SEAS Teaching Online Website

CTL Video Production Best Practices

Thank You!