Active Learning, quite simply, is the process of learning by doing. At previous times it has simply been called “learning”, as a recognition that no one can demonstrate mastery of an area without activity. This pamphlet will guide you through some options for how you can make your classroom a more active environment for your students.

Worried that moving to an active classroom will limit student access to the required content for the course? Don’t. We’re here to help.
Lecture (including in-person, online, as well as video content)

Where some proponents of active learning drop the lecture entirely, focusing their time on solving-problems that will require content knowledge that traditionally would be passed on in a lecture, there is no reason this has to be the case. Here are some suggestions for making lectures more active.

**General**

- Consider replacing text slides with images such as flowcharts, interactive timelines, or other items to invite exploration
- Create a course Glossary and FAQ in Brightspace to move some content outside of your lecture
- Pre-record your lectures in short segments, and use them as homework to prepare for class activities (aka, flip your course)
- Ask open-ended questions and let the students direct the development of the discussion

**Online**

- Segment your lecture to 4-5 minute videos so students can more easily find specific content and so that you can interject learning moments between segments
- Make sure each lecture segment only addresses one topic at a time, and name each clip according to the topic covered
- Incorporate “learning moments,” including quizzes, interactive items, discussions or other items that encourage action, to open up additional course content
- Provide a PDF copy of any presentations that you record for students to annotate or work with

Moving to an active classroom doesn't mean that content no longer needs to be delivered, but rethinking how it's delivered will help get students more invested in their learning.
**In-person**

- Be heavy-handed in cutting out details that don’t support the narrative of the lesson
- Include details that aren’t core to the narrative in handouts, so students can easily scan and study those details to prepare for their assignments
- Include classroom response systems like clickers, or apps for polling like Via Response, for quick interactions that will keep student awareness up
- Provide a back channel for discussion such as the chat feature of Blackboard Collaborate so students can help each other in class and reference it later (bonus: you’ll have this information to help you address student confusion)

**Text**

While it seems logical to think that all reading is active, it's important to remember that it’s very possible that a student can passively read every word in a book and not retain any of the information. Teaching students to read actively can help in promoting active learning. The following options are adapted from and expansions on Princeton University’s McGraw Center. All of these could be adopted as assignments or guidelines passed along to your students:

- Ask students pre-reading questions to assess students’ previous knowledge or to ask why the students think the reading has been assigned at this particular time in class
- Have students create unique glossary definitions (to add to Brightspace) for unfamiliar terms in the text
- Ask students to identify the main idea as stated in the text - just copy and paste a simple sentence that identifies the main point
- Encourage note writing instead of highlighting
- Allow students to submit text questions as Frequently Asked Questions, with answers, that could be shared with the rest of the class
• Ask students to make flow charts, diagrams, or even take pictures that simplify the connections that are being drawn in the text or that evoke the meaning of the text

• Have students provide short, simple summaries of key text paragraphs, and determine whether the paragraphs support the main point, provide an alternative view, raise a key question, or perform any other function

• Have students propose test questions from their reading. Distribute the questions to the class at large to ask students which question they think is the best question, with appropriate justification. Use a few of the top questions on a test

• Isolate key understandings in the class where students could provide short supplemental instructional materials (short videos, interactive graphics, flowcharts) that could be used when the lesson is taught to the entire class. Limit the research to the text you are using for the class

**Quizzes**

Traditionally, quizzes have been used to assess whether students have learned the content presented in class and the book. In an active course though, the focus is on creating new knowledge utilizing the content that has been presented as the starting point. This doesn’t negate the need of quizzes, but it does change their focus. Active-learning quizzes should:

- Assess not only skills of students at the beginning of the semester, but also the expectations of students because understanding student motivations allows an instructor to more easily maintain student engagement

- Allow for exploration of ideas - quizzes in active classrooms are used to help facilitate learning as much as they are about assessing learning

- Be flexible - intersperse short quizzes into other more passive practices like at home reading, pre-recorded presentations (Office Mix), or videos (Zaption)

- Provide low-stakes opportunities for practicing skills
Assignments
At the heart of an active learning classroom is activity, which means more time working in ways that either involve formal grading or inform other formal grades. There are many methods for making better assignments, and you’ll hear people talking about incorporating higher order learning (tasks where students analyze or evaluate content), scaffolding (where assignments build off of each other to develop learning in progressively more difficult tasks), authentic learning (which brings the student experience into the assignment), problem-based learning (which starts with a problem to solve relevant to the course content), as well as general collaborative learning (group work). Drawing on all of these methods, here are some great assignments to help students become more active learners:

**Higher Order Thinking**

- Provide students with an incomplete case study and have them argue for a possible outcome based on the information provided
- Have students write papers from two competing perspectives
- Have students analyze a dataset and create charts/graphs/infographics from the data, and then address the assumptions in their analysis and how competing assumptions may create different views of the data
• Provide students with a scientific news story. Require students to find the journal article on which the news article was based and compare the information presented in the news story with the actual article.

**Authentic Learning**
• Have students write a letter to a family member explaining a key concept in the class

• Have students submit a reflective piece alongside an essay (How did you struggle with this? How did you excel?)

• Ask students how content learned in the course could have changed an experience in their life, had they known the information earlier

• Allow more possibilities than just a paper for a final assignment - some students have communication skills that extend well beyond writing. If students can bring their greatest skills to an assignment, it can help them build a portfolio that promotes their life path

**Problem-Based Learning**
• Pose a research question at the start of the semester with students collecting data across the course. Require multiple data sources to be collected to study the phenomenon. Provide students with anonymized data from the entire class, and then allow students to create specific hypotheses, which they support through data analysis

• Reach out to community groups of various sorts to find problems they need solved. Allow a representative to present the problem to your class, and have groups of students generate solutions to the problem that address the needs of the community group

• Have students create a grant proposal for research that would extend the literature in your subject matter
Collaborative Learning
• Leading group discussions, where students prepare a discussion for the entire class on a given topic
• Building interactive content using web technologies, media items like presentations or movies, or traditional papers such as case studies
• Think-pair-share: students work on a problem alone, then in a pair, and then with a larger group or the class
• Mini-debates
• Create group editing teams. Students create a draft assignment, which they submit to group members, who provide feedback. Ask students to provide insight into how they

Online Course Organization
Active learning not only depends on the physical classroom space, but also the online classroom space and how it is organized to allow for quick access to reinforce content topics in preparation for active participation in the course. In the same way that it’s frustrating for us all when we search for an item online with poor results, your students will expect your Brightspace course site to include all the information they need to effectively complete your course. Best practices include:
• Break up recorded lectures into segments that are smaller than 5 minutes, and that address one core concept
• Name each topic object according to the content covered in that object (e.g. - “Heritability Overview Lecture” or “Learned vs Inherited Behavior Chart” vs. “lesson 2 video”)
• Create modules based on content, as opposed to chapter numbers, week numbers, or tool used to create the content in the module
• Utilize just-in-time learning tools such as a glossary, or frequently asked questions to provide bite-sized content that’s easy to locate when students need them