

# CANVAS FOR TEACHING AND LEARNING

Kiruthika Ragupathi

Centre for Development of Teaching and Learning  
National University of Singapore

January 2023



# TABLE OF CONTENTS

Learning Management System, the Canvas .....	3
Canvas for managing your courses .....	3
Implementing the 7 Principles of Effective Teaching in Canvas .....	7
Using Canvas to implement Universal Design for Learning principles .....	9
Appendix 1: Organising your content in Canvas .....	12
Appendix 2: Preparing a Lesson Plan using Modules or Pages.....	13
References .....	15

## Learning Management System, the Canvas

A learning management system provides a virtual space for distributing resources, communicating with students, conducting quizzes and tests, providing feedback, monitoring student progress and managing students' grades without requiring high-level programming or web-designing skills. These systems have the potential to guide instructors through a course-planning process anchored in effective pedagogy and adapted to diverse student needs.

**Canvas** is the learning management system that facilitates and supports teaching and learning at NUS. Canvas provides a wide range of resources and services, from simple administrative tools to complete online courses. It also enables students to access up-to-date online syllabus, download notes, submit assignments, manage projects, participate in discussion forums and online communities, watch webcast lectures and take part in online quizzes and surveys.

Use of Canvas supports the University's emphasis on blended approaches that combine face-to-face and technology enhanced learning. Canvas provides academics with a web-based framework in which to situate their course materials and the tools with which to manage communication and interaction with and amongst students. Table 1 gives an overview of the uses of Canvas.

**Table 1: Uses of Canvas**

Transmission	Share syllabus, Disseminate content (e.g., lecture notes, presentation slides, readings); digital multimedia (e.g., audio and video lectures, images, infographics, film, animation)
Discussion	Asynchronous text forums; Synchronous webinars
Practice	Digital interactive tools with meaningful feedback on actions (e.g., online assignments with feedback; online quizzes with automated feedback)
Collaboration	Collaborations, Groups, Discussions, Chat, Synchronous Zoom webinars
Creation	User-generated content creation, reflection, interrogation, knowledge building and sharing

### Canvas for managing your courses

Canvas Workspace gives you an overview of all your courses and tools with which you can manage your course. Canvas has a rich set of online tools and resources – modules, syllabus, pages, discussions, files, announcements, assignments, quizzes/surveys, Videos/Panopto, and chat that are designed to facilitate collaboration, communication and promote independent

learning. You will also be able to create and access item banks, video banks (using Canvas Studio) and reusable content. Table 2 below provides of how you can use Canvas to manage your teaching.

**Table 2 Using Canvas to manage your teaching and learning**

Purpose	Canvas Tool
<p><b>Present basic module information</b>  <b>Instructors can use Canvas to present basic module information.</b></p> <ul style="list-style-type: none"> <li>a) Create a course in Canvas to include detailed module description – Synopsis, Learning outcomes, Pre-requisites, Teaching modes, Schedule, Syllabus, Practical work, and Assessment modes/policies.</li> <li>b) Structure your modules (a lesson plan) to provide a road map of what your students need to learn and how it will be done effectively before, during and after the face-to-face class time.</li> <li>c) Provide quick access to reading lists, downloadable resources, and/or other information sources that will support students’ independent learning.</li> <li>d) Provide links to external websites, resources and online tools.</li> <li>e) Create a “Meet the Instructor/Meet the Teaching Team” page to include Instructors’ and/or tutors’ photograph and contact information.</li> </ul>	<p><i>Syllabus</i></p> <p><i>Modules</i></p> <p><i>Files</i></p> <p><i>Pages, External URLs</i></p> <p><i>Pages, People</i></p>
<p><b>Distribute module materials (handouts, notes, assignment tasks)</b>  <b>Instructors can use Canvas to provide module materials and resources for use as a preparation for upcoming class or as a follow-up to any class.</b></p> <ul style="list-style-type: none"> <li>a) Update the module syllabus on Canvas.</li> <li>b) Organise files to improve structure, navigation, and usability.</li> <li>c) Upload presentation slides, handouts, notes, assignments, worksheets, and readings before or after class, as appropriate.</li> <li>d) Scan and upload documents or articles for assigned readings while adhering to NUS copyright policies.</li> <li>e) Upload practice tests and online quizzes.</li> <li>f) Upload readings from the library.</li> </ul>	<p><i>Syllabus</i></p> <p><i>Files</i></p> <p><i>Course readings</i></p>

<p><b>Communicate with students</b>  <b><i>Instructors can use Canvas to enhance communication with students.</i></b></p> <ul style="list-style-type: none"> <li>a) Post announcements to remind students of assessment tasks, assignment due dates, timetable or room changes, corrections or clarifications to materials and exam schedules.</li> <li>b) Post information after each class (course materials, pre-readings, video recordings) to help students be better prepared for the next lesson.</li> <li>c) Send e-mail messages to an individual student or all students using class roster.</li> <li>d) Set up a discussion/chat to supplement in-class lectures/tutorials (See <a href="#">Resource guide on Facilitating Effective Online Discussions</a>).</li> <li>e) Set up online tutorials to supplement in-class lectures/tutorials.</li> <li>f) Solicit anonymous feedback on a concept or topic.</li> <li>g) Set up the gradebook, and post student marks on an ongoing basis.</li> </ul>	<ul style="list-style-type: none"> <li>Announcements</li> <li>Inbox</li> <li>Discussions</li> <li>Chat</li> <li>Zoom</li> <li>Surveys</li> <li>Gradebook</li> </ul>
<p><b>Provide and receive feedback</b>  <b><i>Instructors can use Canvas to provide and receive feedback.</i></b></p> <ul style="list-style-type: none"> <li>a) Provide timely and constructive feedback – Use Speedgrader to Annotate over the submissions, give audio or video feedback, and/or upload general class feedback.</li> <li>b) Provide automated constructive feedback using the Feedback Display option.</li> <li>c) Provide acknowledgement feedback once essays, papers, or assignments are received.</li> <li>d) Receive feedback from students by encouraging them to participate in surveys (e.g., mid-semester feedback). Create questions that will allow you to gauge their overall experience or identify areas that may need to be fine-tuned.</li> <li>e) Encourage students to use anonymous feedback to give feedback on your module, learning activities and assessment tasks.</li> <li>f) Integrate online quizzes &amp; assignments to gain invaluable insights (See <a href="#">Resource guide on Designing Effective Online Assessments</a>)</li> <li>g) Appropriately intervene in discussion threads to stimulate learner interaction</li> </ul>	<ul style="list-style-type: none"> <li>Assignments, Speedgrader</li> <li>Quizzes</li> <li>Speedgrader</li> <li>Survey</li> <li>Survey</li> <li>Quizzes, Assignments</li> <li>Discussions</li> </ul>

<p><b>Provide additional/supplementary resources</b>  <b><i>Instructors can use Canvas to provide students with resources they could use for module assignments and encourage them to extend learning by communicating with tutors, peers, and/or experts.</i></b></p> <ul style="list-style-type: none"> <li>a) Post web resources and other related links to supplement a topic.</li> <li>b) Provide opportunities for students to share information and ideas with the class online.</li> <li>c) Post exemplars of good work done by students (past and present) for student reference.</li> <li>d) Set up additional group discussion areas or chat rooms allowing students to discuss and communicate on their projects.</li> <li>e) Set up practice tests and quizzes.</li> <li>f) Provide information or links to information on learning skills (i.e., reading the textbook/assigned readings, studying for tests, writing a report) and career related sites.</li> </ul>	<p><i>Pages, External URLs</i></p> <p><i>Discussions, Groups, Collaborations, Pages</i></p> <p><i>Files</i></p> <p><i>Discussions</i></p> <p><i>Quizzes</i></p> <p><i>Pages, External URLs</i></p>
<p><b>Supplement the classroom experience</b>  <b><i>Instructors can use the Canvas environment to supplement classroom delivery.</i></b></p> <ul style="list-style-type: none"> <li>a) Post a weekly problem, or case study for students to discuss and debate.</li> <li>b) Set up a discussion where students can explore complex problems and case studies, or debate a topic, and share information and ideas with peers.</li> <li>c) Have students research a specific topic online and write an essay or create a presentation based on that information and post them online for peer review.</li> <li>d) Post a weekly test that is automatically graded.</li> <li>e) Have students suggest resource that supplements a topic using a shared page (enable editing for students).</li> <li>f) Set up group projects that incorporate the group discussion areas and encourage students to contact each other via email.</li> <li>g) Supplement in-class lectures/tutorials with online tutorials, meetings, and/or webinars.</li> </ul>	<p><i>Discussions</i></p> <p><i>Quizzes</i></p> <p><i>Pages, Collaborations</i></p> <p><i>Groups</i></p> <p><i>Zoom</i></p>

<p><b>Develop enhanced digital materials</b>  <b><i>Instructors can use other computer applications to improve and enhance digital materials.</i></b></p> <ul style="list-style-type: none"> <li>a) Add images, infographics, audio podcasts, audio clips or video clips.</li> <li>b) Insert interactive elements (audio podcasts, video lectures, screencasts, mindmap)</li> <li>c) Create Question Banks to create assessment questions, quizzes or enhanced MCQs</li> </ul>	<ul style="list-style-type: none"> <li>} <i>Videos/Panopto Studio, Pages</i></li> <li><i>Item banks, Question Banks</i></li> </ul>
--	--

## **Implementing the 7 Principles of Effective Teaching in Canvas**

The “*Seven Principles of Effective Teaching*” developed by (Chickering and Gamson, 1987) has been a guiding force for quality education, and represents a philosophy of engagement, cooperation, learning community, interaction, quality, and efficiency. These seven principles embodies the following characteristics:

- Encourages Student-Faculty Contact
- Encourages Cooperation Among Students
- Encourages Active Learning
- Gives Prompt Feedback
- Emphasizes Time on Task
- Communicates High Expectations
- Respects Diverse Talents & Ways of Knowing

Table 3 outlines the role of CANVAS in supporting effective teaching and enhanced learning.

**Table 3: Using CANVAS to implement the 7 principles of effective teaching**

<b>Principle</b>	<b>Strategies</b>	<b>Canvas Tools for implementation</b>
<b>1. Encourage student-faculty contact.</b>	<ul style="list-style-type: none"> <li>• Building the initial contact with students one week before class begins</li> <li>• Clarifying misunderstood concepts, and fielding questions</li> <li>• Checking students' understanding of classroom policies, tests, or projects</li> <li>• Provide electronic office hours</li> <li>• Record chat room conversations for follow-up</li> </ul>	<ul style="list-style-type: none"> <li>• Inbox / Announcements / People / Class roster</li> <li>• Discussions</li> <li>• Quizzes</li> <li>• Zoom</li> <li>• Chat</li> </ul>
<b>2. Encourage cooperation among students.</b>	<ul style="list-style-type: none"> <li>• Set up a "buddy system" or "project groups for collaboration"</li> <li>• Think-pair-share</li> <li>• Team assignment</li> <li>• Student submission for peer feedback/evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Groups, People, Collaborations</li> <li>• Assign class groups to discussions</li> <li>• Group Assignment</li> <li>• Peer Assignments</li> </ul>
<b>3. Encourage active learning.</b>	<ul style="list-style-type: none"> <li>• Post weekly announcements to introduce the week's topic</li> <li>• Require participation</li> <li>• Form learning teams; Require group-based publishing/submission of documents</li> <li>• Online quizzes</li> </ul>	<ul style="list-style-type: none"> <li>• Announcements</li> <li>• Discussions</li> <li>• Groups; Group homepage</li> <li>• Quizzes</li> </ul>
<b>4. Give prompt feedback.</b>	<ul style="list-style-type: none"> <li>• Acknowledgement feedback once essays/papers/assignments are received</li> <li>• Post answer keys and suggested answers hours after a test</li> <li>• Provide constructive feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Inbox</li> <li>• Quizzes (to generate online quizzes/test)</li> <li>• In Assignments, Discussions, and Quizzes</li> </ul>
<b>5. Emphasise time on task.</b>	<ul style="list-style-type: none"> <li>• Timed quizzes</li> <li>• Extend classroom discussion online</li> <li>• Posting articles and readings</li> <li>• Posting notes and outlines</li> </ul>	<ul style="list-style-type: none"> <li>• Quizzes</li> <li>• Discussions/Chat</li> <li>• Files/course readings</li> <li>• Files/Syllabus</li> </ul>
<b>6. Communicate high expectations.</b>	<ul style="list-style-type: none"> <li>• Clearly communicate your expectations including learning outcomes, assignments, activities, due dates, grading scales, class policies</li> <li>• Post course rubrics</li> <li>• Post overall quiz statistics along with grades</li> <li>• Publish examples of high-quality student work</li> </ul>	<ul style="list-style-type: none"> <li>• Syllabus</li> <li>• Files</li> <li>• Rubrics</li> <li>• Gradebook</li> <li>• Files</li> </ul>
<b>7. Respect diverse talents and ways of learning.</b>	<ul style="list-style-type: none"> <li>• Vary types of quizzes and assignments</li> <li>• Collaborate in groups or work alone</li> <li>• Providing multiple content formats</li> </ul>	<ul style="list-style-type: none"> <li>• E-assessments, one-minute tasks</li> <li>• Discussions/Groups/Collaborations</li> <li>• PDF documents, presentation slides, Audio/video podcasts, Video lectures, Screencasts, weblinks, simulations</li> </ul>

Adapted from Chickering and Ehrmann (1997) Implementing the Seven Principles: Technology as a Lever



## Using Canvas to implement Universal Design for Learning principles

Universal Design for Learning (CAST, 2011) promotes the design of inclusive classroom instruction and accessible course materials through its three core principles:

1. **Multiple methods of representation** to provide multiple ways for students to access information and build new knowledge.
2. **Multiple means of student action and expression** to provide various alternatives for students to demonstrate what they have learned.
3. **Multiple modes of student engagement** to support independent learning by tapping into students' interests, challenging, and motivating them appropriately.

These three domains support the recognition networks and the what of learning, the strategic networks and the how of learning, and the affective networks and the why of learning. Table 4 outlines how CANVAS supports in the implementation of the UDL principles.

**Table 4: Using Canvas to implement UDL principles**

Guideline	Strategies	How Canvas supports
<b>Principle 1. Provide multiple means of representation (Recognition networks)</b>		
Provide options for <b>perception</b>	<ul style="list-style-type: none"> <li>• Vary ways to display information</li> <li>• Offer alternatives for auditory and visual information</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Syllabus/Pages</i>: Use text with different fonts and colours</li> <li>• <i>Files</i>: Offer resources, handouts, and readings in different media (text,</li> <li>• <i>Videos/Panopto/Studio</i>: Offer video, and audio content</li> <li>• <i>Web lectures</i>: record online lectures</li> </ul>
Provide options for <b>language and symbols</b>	<ul style="list-style-type: none"> <li>• Clarify syntax and structure</li> <li>• Support symbols, mathematical expressions</li> <li>• Illustrate through multiple media</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Modules</i>: Organise course content by day, week, unit, topic, or outcome to ensure a sequential flow of content</li> <li>• <i>Syllabus/Pages</i>: Use rich text editor to embed pictures, and videos</li> <li>• <i>Files/Videos</i>: Offer variety of resources in different media (text, video, and audio)</li> <li>• <i>Quiz</i>: Provide self-assessments</li> </ul>
Provide options for <b>comprehension</b>	<ul style="list-style-type: none"> <li>• Activate background knowledge</li> <li>• Highlight patterns, essential information, big ideas and relationships</li> <li>• Guide information processing and visualization</li> <li>• Support knowledge transfer and generalisation</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Survey</i>: Use pre-reading surveys</li> <li>• <i>Pages/Syllabus/Discussions/Files</i>: Share essential goals and ideas</li> <li>• <i>Assignments/Discussion/Videos</i>: Use clear, open-ended questions that tap into the higher order thinking levels of application, analysis, synthesis, and evaluation to start conversation thread</li> <li>• <i>Discussions</i>: Create specific communities/threads to share ideas, and resources</li> </ul>
<b>Principle 2: Provide multiple means for action &amp; expression (Strategic networks)</b>		
Provide options for <b>physical actions</b>	<ul style="list-style-type: none"> <li>• Vary methods for response and navigation</li> <li>• Optimise access to tools and assistive technologies</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Discussions</i>: Get students to collaborate and share ideas using discussion threads; allow for student-initiated topics in the discussions</li> <li>• <i>Assignments/Surveys</i>: Support self-reflection</li> </ul>
Provide options for <b>expression and communication</b>	<ul style="list-style-type: none"> <li>• Use multiple media for communication</li> <li>• Use multiple tools for construction and composition</li> <li>• Provide varied levels of support for practice and performance</li> </ul>	<ul style="list-style-type: none"> <li>• Use the various tools to plan engaging lessons</li> <li>• <i>Discussions/Collaborations</i>: Get students to collaborate and share ideas using discussion threads; allow for student-initiated topics</li> <li>• <i>Quizzes</i>: Create self-assessments for practice</li> <li>• <i>Multimedia</i>: Create video lectures for revision</li> </ul>

Provide options for <b>executive functions</b>	<ul style="list-style-type: none"> <li>• Guide appropriate goal-setting</li> <li>• Support planning and strategy development</li> <li>• Facilitate management of information and resources</li> <li>• Monitor progress</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Syllabus/Outcomes</i>: Share learning outcomes; Align outcomes with assignments, quizzes and learning activities</li> <li>• <i>Modules</i>: Provide adaptive learning pathways</li> <li>• <i>Pages/Files</i>: Deliver information and content, create a front homepage to welcome students to your course</li> <li>• <i>Quizzes/Grades</i>: Use reports to enable students to monitor their own progress</li> </ul>
<b>Principle 2: Provide multiple means for engagement (Affective networks)</b>		
Provide options for <b>recruiting interest</b>	<ul style="list-style-type: none"> <li>• Optimize individual choice and autonomy</li> <li>• Optimize relevance, value, and authenticity</li> <li>• Minimize threats and distractions</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Surveys/Quizzes</i>: Identify students' topics of interest; and vary assessments accordingly</li> </ul>
Provide options for <b>sustaining effort and persistence</b>	<ul style="list-style-type: none"> <li>• Heighten salience of goals and objectives</li> <li>• Vary demands and resources to optimize challenge</li> <li>• Foster collaboration and community</li> <li>• Increase mastery-oriented feedback</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Outcomes</i>:</li> <li>• <i>Discussions/Videos/Studio/Files</i>: Provide variety of resources</li> <li>• <i>Discussions/Groups</i></li> <li>• <i>Quizzes/Assignments/Rubrics</i>: to provide feedback</li> </ul>
Provide options for <b>self-regulation</b>	<ul style="list-style-type: none"> <li>• Promote expectations and beliefs that optimize motivation</li> <li>• Facilitate personal coping skills and strategies</li> <li>• Develop self-assessment and reflection</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Syllabus</i>: Create a student-centered learning syllabus to articulate course outcomes, structure, and expectations</li> <li>• <i>Front Page</i>: Create a front homepage to welcome students to your course</li> <li>• Offer self-paced and personalised learning activities and assessment tasks</li> <li>• <i>Assignments/Discussions/Survey</i>: Allow students to self-reflect and get feedback from peers</li> </ul>

Adapted from CAST (2011) Universal Design for Learning Guidelines version

## Appendix 1: Organising your content in Canvas

There are many ways in which you can organise content in a logical, coherent format within your Canvas course sites. You may consider the following:

- Structure and deliver your course by grouping content into logical and coherent **Modules** to provide a clear roadmap for students.
- Chunk content into manageable pieces by using **Modules** or **Pages**. For example, they can be organised by week, topic, theme).
- Communicate course learning outcomes to students within the course site.
- Provide all relevant content, learning activities, assignments, and supplementary resources in chronological order within a module.
- Create a **Home page** that helps students feel welcome in the course and have a smooth student experience (see Figure 1) or use the **Syllabus** as the home page to let students know what the course is about and how to find what they need to succeed in the course.



Figure 1: Sample homepage for a Canvas course site

## Appendix 2: Preparing a Lesson Plan using Modules or Pages

The Modules in Canvas helps you to organise Canvas into weekly lecture schedules or topical schedules. You can include week-by-week or topic-by-topic tasks; assignments, readings, and other learning activities that you want students in your class to review before and after your lectures and tutorials. See figure 2 for a sample course roadmap structured using the Modules feature in Canvas.

A lesson plan is a road map of what your students need to learn and how it will be done effectively before, during and after the face-to-face class time. To do this, the first and most important step is to identify the learning objectives for each class or topic keeping in mind your learning outcomes for the module. See figure 3 for a sample lesson plan structured using the Pages feature in Canvas.

An effective lesson plan will need to tightly integrate the following three key components:

1. Intended learning outcomes (ILO)	Thinking about the following questions, will provide a good starting point: <ul style="list-style-type: none"> <li>○ What is the topic of the lesson?</li> <li>○ What do you want your students to learn and be able to do at the end of the lesson?</li> <li>○ What do you want your students to take away from the lesson?</li> </ul>
2. Teaching/learning activities (TLA)	Plan the specific learning activities and think of different ways of explaining the material (e.g., real-life examples, analogies, visuals, infographics, videos, simulations). Think about the following to design the learning activities: <ul style="list-style-type: none"> <li>○ What can you do to explain/illustrate the topic?</li> <li>○ How can you engage students in the topic?</li> <li>○ Are there relevant real-life examples, analogies, or situations that you can use help students understand the topic?</li> <li>○ What can students do (self-direction) to help them understand the topic better?</li> </ul>
3. Assessment tasks (AT)	Plan for ways to check on student understanding. Thinking about the following questions will give you ideas on how to assess: <ul style="list-style-type: none"> <li>○ What can you ask students to check for their understanding?</li> <li>○ What can you do to get students to demonstrate their understanding?</li> </ul>

Specifying concrete student learning outcomes will help you determine the kinds of TLAs you will use, while those activities will define how you will check whether the ILOs have been accomplished using the designed ATs. Keeping students informed of what they will be learning and doing in class will help keep them more engaged and on track.

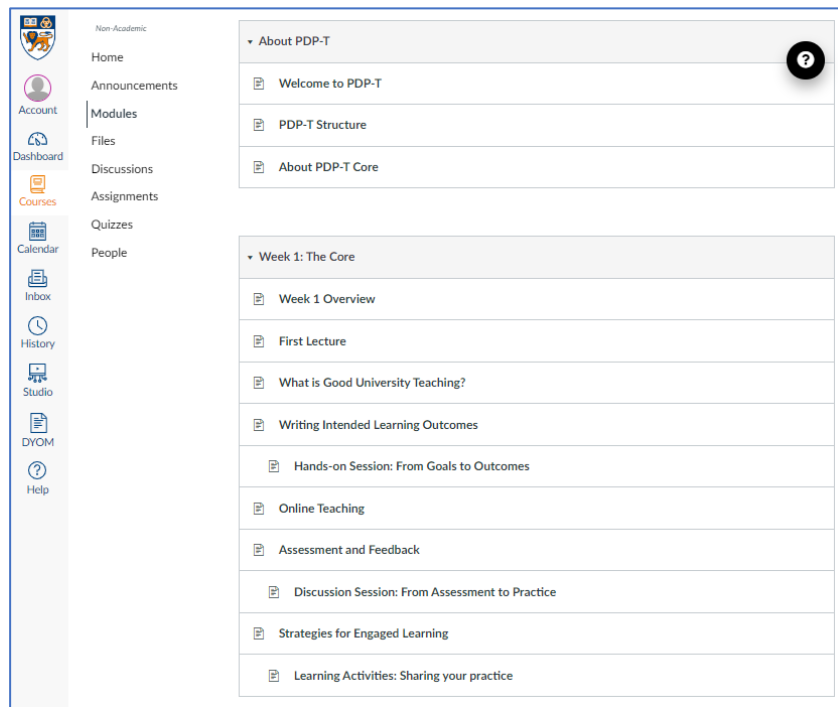


Figure 2: Sample Lesson plan for a Week (or Topic) structured using the Modules feature in Canvas

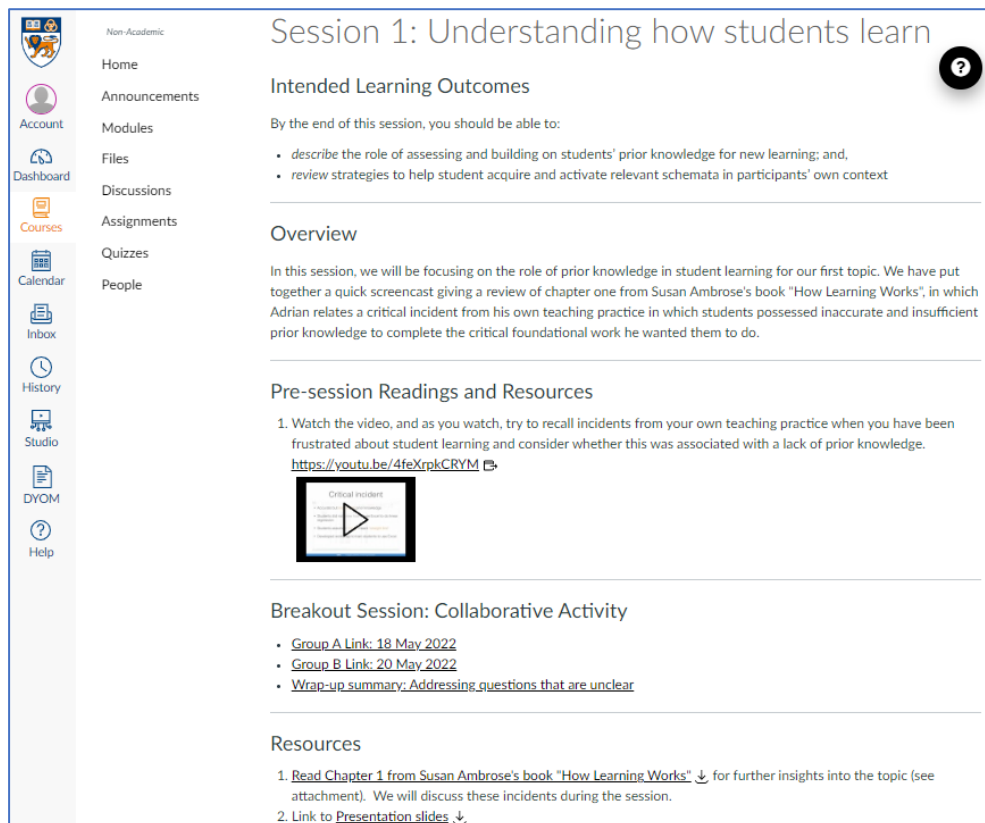


Figure 3: Sample Lesson plan for a class session structured using the Pages feature

## References

1. CAST (2011) *Universal Design for Learning Guidelines version 2.0*. Wakefield, MA.
2. Chickering, A. W., and Gamson, Z. F. (1991), Applying the Seven Principles for Good Practice in Undergraduate Education. *New Directions for Teaching and Learning*, 47. Jossey-Bass, San Francisco.
3. Chickering, Arthur and Stephen C. Ehrmann (1996). Implementing the Seven Principles: Technology as Lever. *AAHE Bulletin*, October, pp. 3-6.
4. Ragupathi, K. (2016). *Facilitating Effective Online Discussions: A resource guide*, Centre for Development of Teaching and Learning (CDTL), NUS.  
<https://www.nus.edu.sg/cdtl/docs/default-source/professional-development-docs/resources/facilitating-online-discussions.pdf>
5. Ragupathi, K. (2016). *Designing Effective Online Assessments: A Resource guide*, Centre for Development of Teaching and Learning (CDTL), NUS  
<https://www.nus.edu.sg/cdtl/docs/default-source/professional-development-docs/resources/designing-online-assessments.pdf>
6. Ragupathi, K. & Pinto, K. (2022, 07 Sep). Guiding principles to a well-designed Canvas course, Teaching and Learning with Canvas at NUS Blog.  
<https://blog.nus.edu.sg/canvas/2022/09/07/guiding-principles-to-a-well-designed-canvas-course/>