



UNSW
SYDNEY

Australia's
Global
University

Built Environment

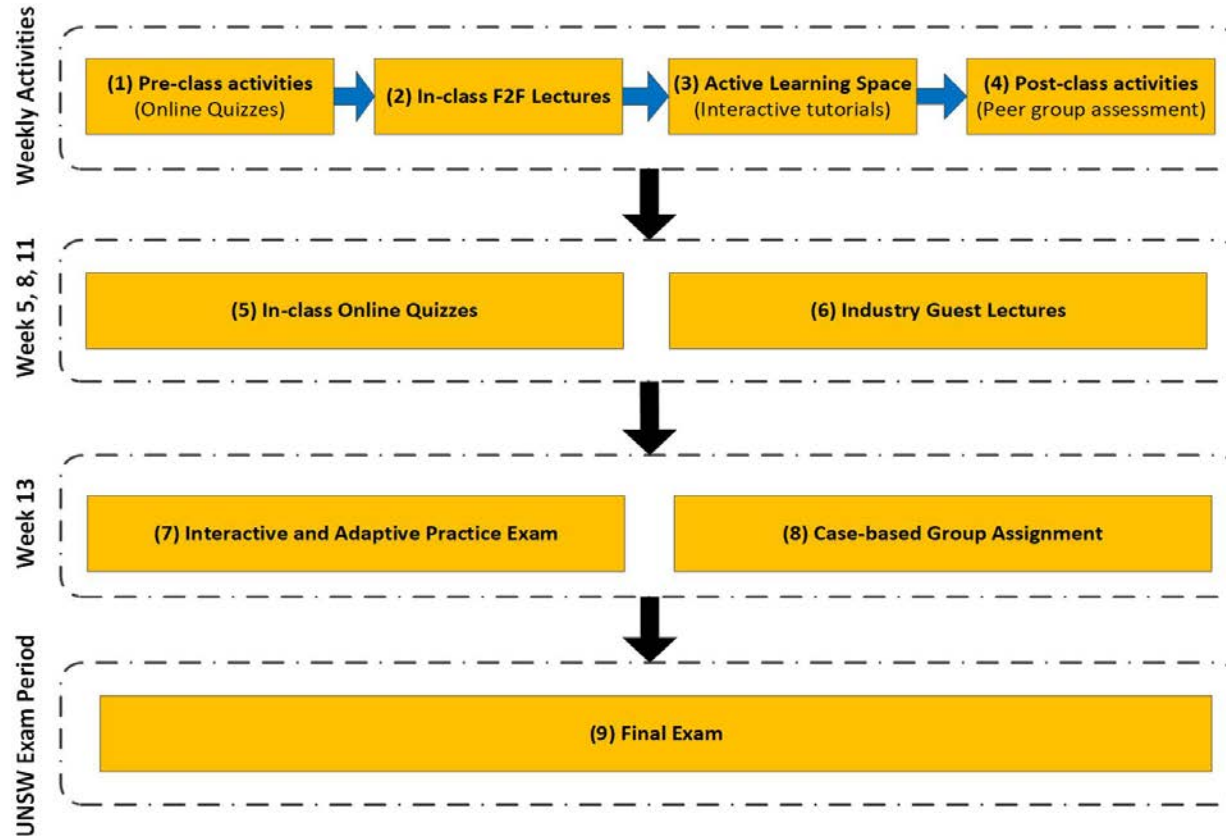
Learning & Teaching Showcase 2018

BLDG2011 - Building Services

Mohammad Mojtahedi, PhD, PMP

Flipped Classroom and Blended Learning and Teaching: Digital Uplift/ILI

BLDG2011 - Building Services Course
Mohammad Mojtahedi, PhD, PMP






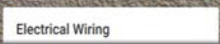



A **welcome video** has been recorded to introduce the course to students.

Students stick a photo and a short note to the **Padlet** before the course commencement as an ice-breaking activity.

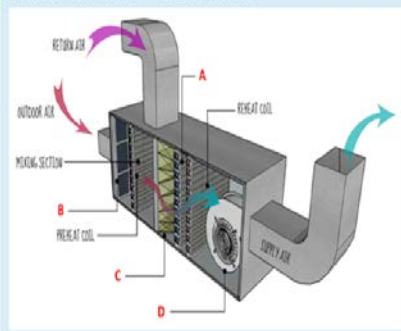
B

When has a building service gone wrong?
Locate an example of a structure or service which has not been installed or built correctly, and has ultimately been problematic. Identify what the problem was.

<p>Example: Fire Protection - Grenfell Tower</p> <p>There was no sprinkler system installed in the building. The external cladding system contributed to the escalation of the fire through the building.</p> 	<p>Water Supply</p> <p>Any discharge water pipe should allow water to flow out easy, and never uphill.</p> 	<p>Inadequate Fire Protection for Pipe Penetrations</p> <p>The below picture conveys a penetration that has been made for a building service in a fire rated concrete block. Penetrations like these will cause a wall to lose its fire rating if it remains unprotected without any type of fire protection (i.e fire collars, mortar, etc.).</p> 
<p>Electrical Wiring</p> 	<p>Incorrect Installation of Disposer Drain</p> <p>Mis-installation of the drain out of a disposer is common occurrence. The</p> 	

Question 4
Correct
Mark 1.00 out of 1.00
100%
Edit question

What are the correct names of the following components from A-D?



Select one:

- a. Cooling coil, pre-filter, bag filter, fan ✓
- b. Cooling coil, sound attenuator, pre-filter, fan
- c. Cooling coil, bag filter, pre-filter, fan
- d. Cooling coil, sound attenuator, bag filter, fan

Pre-class online quizzes

to **engage** students actively and to use class time effectively can improve teacher-student relationships, facilitate **deep learning** through active learning activities in the classroom, assist students in understanding their own learning preferences, and **promote** student **engagement**.

B

200+ photos from different building services were taken from three buildings across the campus particularly from the restricted areas.

Image Gallery



Library Building

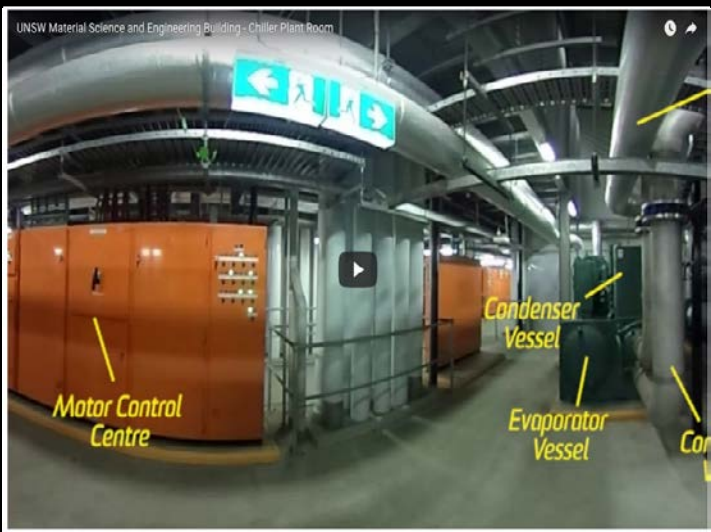


Law Building



Materials Science ...





40+ short videos with voice and subtitles and **360 videos** with labels have been created to **inspire** students learning.

Course digitalisation by using **360 videos** and short videos **inspire students** and **enhance their learning** by moving from surface passive engagement to **active deep learning**.

(Scientia Educational Framework)



B

SS4_Building Cooling System Mohammad Mojahedi (Score : 0)

Identify Building Cooling System Components




Image 1 Image 2 Image 3

Select Answer: Select Answer: Select Answer:

Chiller
Air Handling Unit
Cooling Tower

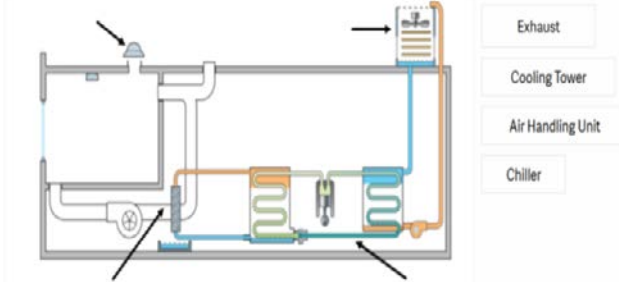
A few **interactive and adaptive tutorials** using Smart Sparrow – for **personalised learning** and guide students through difficult concepts.

90% of respondents confirmed that the use of interactive and adaptive tutorials by Smart Sparrow at UNSW Active Learning Spaces have **improved their learning** in BLDG2011 Building Services.

SS4_Building Cooling System Mohammad Mojahedi (Score : 1)

Question 1

Drag and drop the labels to the image to identify the components of the system



Exhaust
Cooling Tower
Air Handling Unit
Chiller



Active Learning Spaces enable teachers to provide an environment for learner-centred and **blended approaches** supported by current **educational technologies**.

Use of Active Learning Spaces has **increased the attendance** and **engagement** in tutorials. I received **100% satisfaction** with **all strongly agreeing** to the quality of my teaching (**CATEI 6 out of 6, S2 2016**).

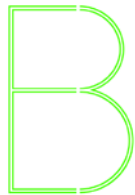


B

Each student receives a group submission randomly and they have to provide feedback by using the **Workshop Tool** in the **Moodle** to assess their peers.

Peer-assessment workshop tool – to encourage students to **reflect** on their role and contribution to the process of the group work and to allow students to see and reflect on their peers' assessment of their contribution.

Students are given an **online rubric** to complete the **assessment** right before the following week lecture.



Assessment form -

Criteria	Levels				
	<input type="radio"/> Fail	<input type="radio"/> Pass	<input type="radio"/> Credit	<input checked="" type="radio"/> Distinction	<input type="radio"/> High Distinction
Active response to the tutorial question(s) (20%)	Demonstrates minimal attention to content and/or does not answer all parts of the assigned task(s)	Demonstrates adequate attention to content and/or does not answer all parts of the assigned task(s)	Demonstrates adequate attention to content and/or does not answer all parts of the assigned task(s)	Response relevant to highly effective responses to questions	Demonstrates a thorough understanding of content and focuses on relevance of the work
Synthesis and analysis of primary sources (i.e. lecture notes) (30%)	Lack of detailed or accurate representation of primary sources	Adequate response to analysis of representation of primary sources	Adequate response to analysis of representation of primary sources	Lowly appropriate, relevant and compelling content to discuss matter of use of primary sources	Enriches source and elaborates breadth and depth of understanding of concepts in the knowledge domain using primary sources
Synthesis and analysis of secondary sources (i.e. supplementary materials) (40%)	Lack of detailed or accurate representation of secondary sources and/or does not address or is not appropriate	Adequately response to analysis of representation of secondary sources	Adequately response to analysis of representation of secondary sources	Lowly appropriate, relevant and compelling content to discuss matter of use of secondary sources	Enriches source and elaborates breadth and depth of understanding of concepts in the knowledge domain using secondary sources
Organisation and presentation of material and citations (10%)	Does not achieve appropriate format or structure to confounding	Overall structure not achieved or confusing	Overall argumentative structure needs work	Application of relevance of content reasonably effective	Effective articulation of relevance of content
	Referencing and/or acknowledgement of sources absent or seriously deficient	Citation attempted, but elements missing	Citation information generally complete but some major errors in applying	Citation information generally complete but some major errors in applying	Full and correct citation

Overall feedback -

Findings of the digital uplift project for BLDG2011 has been submitted to the Journal of **Professional Issues in Engineering Education and Practice**



B