

# Leveraging your LMS to support large classes

Classlist Grades Log Out Rubrics Course Home

Desire2Learn UNIVERSITY OF COLORADO BOULDER CHEN 3210 - Heat Transfer

On-line office hours Quizzes Content Dropbox Groups

News | ▾

Exam 1 solutions ×

Posted Oct 13, 2016 12:18 PM

.... are posted under exam materials.

Exam logistics: ×

Posted Oct 5, 2016 10:38 AM

Thursday, October 6th: 6:30 – 8:30 pm (15 minutes afterwards to put things together)

Three rooms: A104, A108, A115

Last names:

- a) A – Bo A104
- b) Br – Ke A108
- c) Ki – Z A115

Please make sure you're in the right room!

We will provide the equation sheet and scratch paper – you may bring in a 4" X 6" card (both sides). No problems! Everything must be written in your own handwriting. No copying figures or equations from tables.

- a) 8 questions: 4 short answer, 4 calculational ones
- b) Do not answer more than one problem per page except for the short answer ones.
- c) Put your name on every page! Any pages without names will be discarded.
- d) Any solutions without work will result in a zero for the entire problem.

Exam 1 material ×

Content Browser | ▾

Bookmarks Recently Visited

- Class info >
- Class notes >
- Homework >
- Equation Sheets >
- Exam material >
- Week 1 >
- Week 2 >

Calendar | ▾

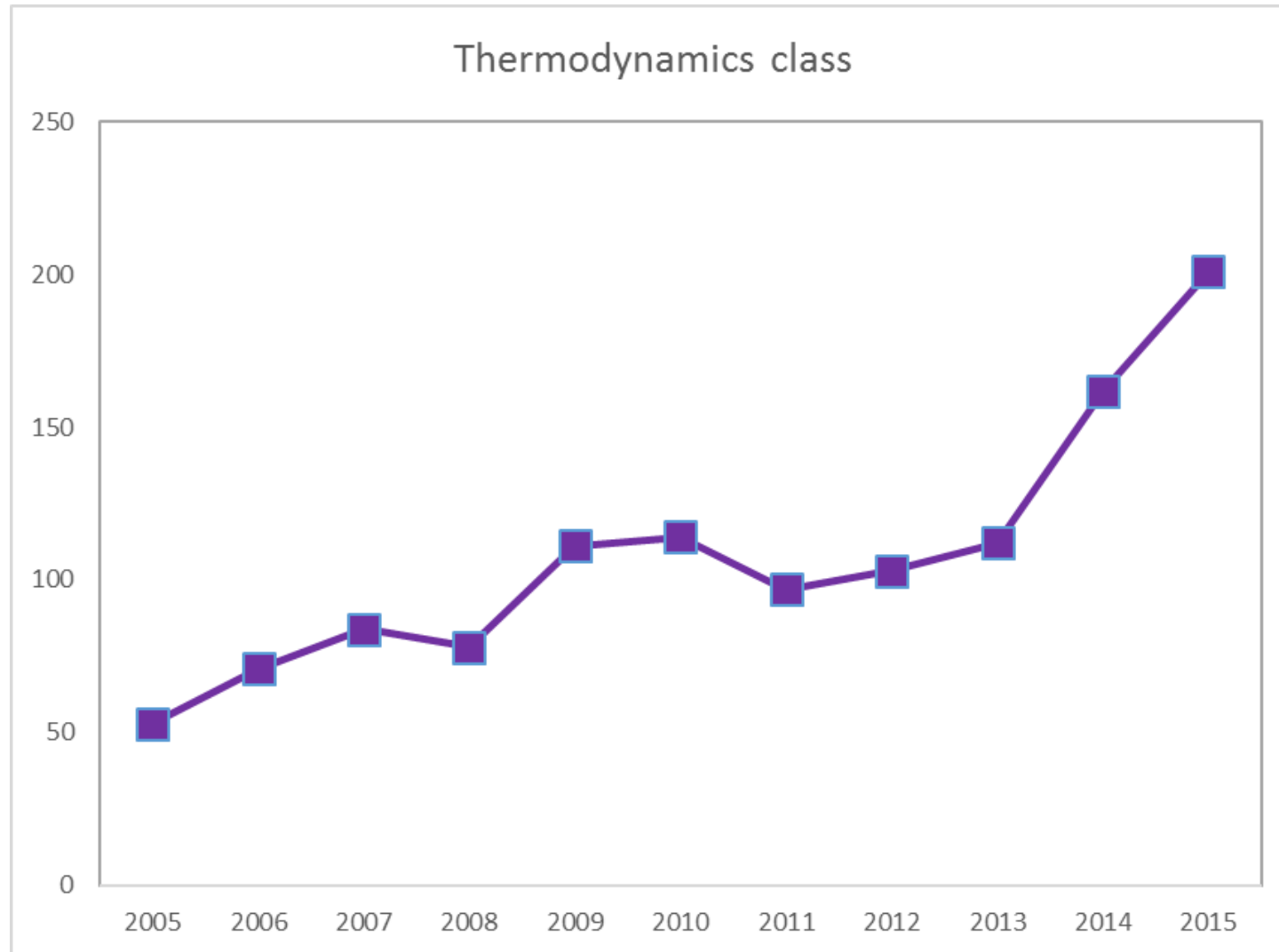
Thursday, November 10, 2016 >

Upcoming events ▾

NOV 10:00 AM Quiz 33: Due Monday, November 14th




# Why?





# Variety of ways to use LMS


- Usual
  - Gradebook
  - Post content
- Beyond
  - Creating a flipped classroom
  - Forming groups
  - On-line homework and quizzes
  - DropBox for homework
  - On-line office hours
  - Reports

# Creating a flipped classroom




**Week 4** 


 Starts Sep 9, 2016 10:00 AM


 Download

[Expand All](#) | [Collapse All](#)

0 % 0 of 14 topics complete

 Bookmarks

 Course Schedule 2

 Table of Contents 221

Class info 5

Class notes 44

Homework 18

Equation Sheets 2


Exam material 12




Week 1 9




Week 2 18  
Begins August 26




Week 3 10  
Begins September 2




**Week 4** 14  
Begins September 9


**Class 9 - Monday, September 12th** 




 [Introduction to fins](#)  

 [Heat loss from a rectangular fin](#)  

 [Heat loss from a cylindrical pin fin](#)  

 [Quiz 8 - due Monday, September 12th at 10:00 am 3.6.1-3.6.2](#)  

 Starts Sep 9, 2016 12:20 PM Ends Sep 12, 2016 10:00 AM

 [class 9 template](#)  

# Forming groups

<input type="checkbox"/> Homework Groups (52) ▾	
<input type="checkbox"/> Group 1	4/4
<input type="checkbox"/> Group 2	3/4
<input type="checkbox"/> Group 3	3/4
<input type="checkbox"/> Group 4	4/4
<input type="checkbox"/> Group 5	3/4
<input type="checkbox"/> Group 6	4/4
<input type="checkbox"/> Group 7	4/4
<input type="checkbox"/> Group 8	4/4
<input type="checkbox"/> Group 9	4/4
<input type="checkbox"/> Group 10	4/4
<input type="checkbox"/> Group 11	4/4
<input type="checkbox"/> Group 12	4/4
<input type="checkbox"/> Group 13	4/4
<input type="checkbox"/> Group 14	4/4
<input type="checkbox"/> Group 15	4/4

# Meeting with students

## Manage Groups

New Category

### Categories

View Categories

Meeting times

 Email   Delete

Groups	Members
<input type="checkbox"/> Meeting times (10) ▾	
<input type="checkbox"/> Tuesday, November 8th 10:00 am	0/1
<input type="checkbox"/> Tuesday, November 8th at 2:00	0/1
<input type="checkbox"/> Tuesday, November 8th at 2:15	0/1
<input type="checkbox"/> Tuesday, November 8th at 2:30	0/1
<input type="checkbox"/> Tuesday, November 8th at 10:15	0/1
<input type="checkbox"/> Tuesday, November 8th at 10:30	0/1
<input type="checkbox"/> Tuesday, November 8th at 10:45	0/1
<input type="checkbox"/> Tuesday, November 8th at 11:00	0/1
<input type="checkbox"/> Tuesday, November 8th at 11:15	0/1
<input type="checkbox"/> Tuesday, November 8th at 11:30	0/1

# Making on-line assignments easier

The screenshot shows a web-based interface for editing questions. At the top, there are navigation buttons: Start, Edit (highlighted in red), Settings, Preview & Publish, and Retrieval. The main area is titled 'Edit Questions' and features a sidebar with question format options: Multiple Choice (selected), True or False, Long Answer, Matching, Short Answer, Multi-Select, Ordering, Fill in the Blanks, and Arithmetic. Below these are buttons for 'Copy from Another File' and 'Test Bank Network'. The main editing area is for a 'Multiple Choice' question and includes the following fields and controls:

- 1. Title of Question: A text input field.
- 2. Question Wording: A large text area with a 'Randomize' checkbox.
- 3. Answers: A list of four answer options labeled A, B, C, and D, with a 'Feedback' checkbox.
- 4. Select Correct Answer: A dropdown menu.
- 5. Point Value: A text input field containing '1.00'.
- 6. Action buttons: 'Add to End of List', 'Insert into List', 'Clear Form', and 'Preview'.

At the bottom, there is a 'Question List' table with the following structure:

#	Title	Format	Points	Question Wording
-				
-				

# Edit Questions

Multiple Choice ?

1. Title of Question

2. Question Wording  Randomize

3. Answers (PageDown moves to next answer)  Feedback

- A a diffuse emitter
- B a perfect absorber
- C a body that emits radiation that is a function of temperature
- D all of the above

4. Select Correct Answer  5. Point Value

6.

Multiple Choice

True or False

Long Answer

Matching

Short Answer


Multi-Select

Ordering





Fill in the Blanks

Arithmetic

 Copy from Another File

 Test Bank Network

## Question List

#		Title	Format	Points	Question Wording
1		12.4.1	Multiple Choice	1.0	A blackbody can be described as
2		12.4.2	Multiple Choice	1.0	Which of the following is not a characteristic of an isothermal blackbody?
3		12.4.3	Multiple Choice	1.0	According to Figure 12.12
4		12.4.4	Multiple Choice	1.0	According to Wien's Law, the maximum spectral emissive power
-					
-					

A blackbody can be described as

- 1) a diffuse emitter
- 2) a perfect absorber
- 3) a body that emits radiation that is a function of temperature
- 4) all of the above

### Answer Values

0.0% 1)

0.0% 2)

0.0% 3)

100.0% 4)



**Desire2Learn  
Settings**


Properties

Restrictions

Attempts / Submissions

Layout

Random Sections

 Use As New Defaults Restore Default Settings**Properties Settings****Optional Advanced Properties**Notification Email: 

Disable Right-Click:

 do not allow usage of right-click (when using a Mac, hold control and click) when taking the quiz

Disable Pager Access:

 do not allow the sending or reception of pager messages while taking this quiz**Messages**

Introduction:

**Restrictions Settings****Availability**Status: 

Dates: MM/DD/YYYY HH:MM

 Has Start Date   Has End Date  **Optional Advanced Restrictions**Password:  (leave blank to disable)IP Restriction:  .  .  .  (leave blank or 0 to allow all addresses)**Timing**Time Limit:  minutes  enforced  show clockGrace Period:  minutes before flagged as late

Late Submissions (only applies if time limit is enforced)

 Allow normal submission Use Late Limit of  minutes Auto-Submit Attempt

## Quiz List

[?](#) Help

### Current Quizzes

Attempts

[Quiz 32 - due Friday, November 11th at 10:00 am, 12.4](#) ▼

0 / 1

Nov 4, 2016 10:00 AM - Nov 11, 2016 10:00 AM

### Future Quizzes

Attempts

[Quiz 33: Due Monday, November 14th at 10:00 am : 12.5,6](#) ▼

0 / 1

Nov 11, 2016 10:00 AM - Nov 14, 2016 10:00 AM

[Quiz 34: Due Wednesday, Nov. 30 at 10:00 AM: 13.1-13.2](#) ▼

0 / 1

Nov 25, 2016 10:00 AM - Nov 30, 2016 10:00 AM

[Quiz 55](#) ▼

0 / 1

Nov 18, 2016 10:00 AM - Nov 25, 2016 10:00 AM

# Grading homework

Homework 10 – due Tuesday, November 15<sup>th</sup> at 10:00 am (65 pts)

## Properties



11.42a	(10 pts)	$c_{p,c} = 4181 \text{ J/kg-K}$		
11.44	(10 pts)	$c_{p,c} = 4179 \text{ J/kg-K}$	$T_{\text{sat}} = 355 \text{ K}$	$h_{fg} = 2304 \text{ kJ/kg}$
11.49a	(15 pts)	$c_{p,w} = 4182 \text{ J/kg-K}$	$k_w = 0.643 \text{ W-m/K}$	$\rho_l = 998.1 \text{ kg/m}^3$
		$\mu = 548 * 10^{-6} \text{ N-s/m}^2$	$Pr = 3.56$	$k_b = 137 \text{ W/m-K}$
12.16	(15 pts)			
12.24	(5 pts)			
12.29a	(10 pts)			

# Create Rubric



Homework 8 Problems	Points
9.25	10 points
9.27	20 points
9.44	25 points
9.61	10 points
9.72	20 points
9.83	15 points
<b>Overall Score</b>	<b>Level 1 0 or more</b>

# Students submit to DropBox



Group 1

  [Heat Transfer HW7- Group 1.pdf](#) (11.96 MB)



Group 10

  [HTHW7.pdf](#) (4.71 MB)



Group 11

  [Heat Transfer HW #7-2.pdf](#) (5.37 MB)

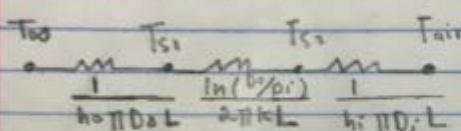
Group 12

  [heat homework 7.pdf](#) (3.61 MB)

Group 13

  [CHEN 3210 Homework 7.pdf](#) (4.7 MB)

8.21) •  $k_{\text{plastic}} = 0.15 \frac{\text{W}}{\text{m}\cdot\text{K}}$  •  $D_i = 0.15 \text{ m}$  •  $D_o = 0.17 \text{ m}$   
 •  $T_{\infty} = 17^\circ\text{C}$  •  $h_o = 1500 \frac{\text{W}}{\text{m}^2\cdot\text{K}}$   
 •  $T_{mi} = 29^\circ\text{C}$   
 •  $\dot{A}V = 0.025 \text{ m}^3/\text{s}$   
 •  $T_{mo} = 21^\circ\text{C}$   
 •  $L = ???$



$$T_{\infty} - T_{mo} = \dot{Q} \left( \frac{1}{h_o \pi D_o L} + \frac{\ln(D_o/D_i)}{2\pi k L} + \frac{1}{h_i \pi D_i L} \right)$$

$$R_{\text{tot}} = \frac{1}{L} \left[ \frac{1}{h_o \pi D_o} + \frac{\ln(D_o/D_i)}{2\pi k} + \frac{1}{h_i \pi D_i} \right]$$

$\Rightarrow h_i = ?? \Rightarrow Re = \frac{4 \dot{m}}{\pi D_i \mu} =$

• Air Properties:  $T_m = \frac{29+21}{2} = 25^\circ\text{C} = 298 \text{ K}$

Homework 7 Problems	Points	Score and Feedback
8.27	10 points	10 points
8.31	15 points	15 points
8.33	15 points	4 points Missing Reynolds number and Nusselt number calculations, h value, and correct length.
8.37	20 points	20 points
8.62	15 points	15 points
8.74	15 points	15 points
8.86	20 points	20 points
8.98	10 points	10 points
<b>Overall Score</b>	<b>Level 1 0 or more</b>	<b>Score and Feedback</b>
		109 points

Save & Record Save Cancel



Homework5\_Group12.pdf

Homework 5.

5.85.  $T_i = 50^\circ\text{C}$  suddenly reduce to  $T_s = 20^\circ\text{C}$   
Find  $q''$  for 30 min when  $T_s = 20^\circ\text{C}$ .

Asphalt:  $\rho = 2115 \frac{\text{kg}}{\text{m}^3}$   $k = 0.062 \frac{\text{W}}{\text{m}\cdot\text{K}}$   $C = 920 \frac{\text{J}}{\text{kg}\cdot\text{K}}$

Semi infinite solid problem:

Case 1: Constant surface temperature:

## Group 12

[See All Group 12 Members](#)[Hide Folder Information](#)[Homework 5](#)[Edit Dropbox](#) [Preview Student View](#)[Show Dropbox Folder Dates](#)

## Evaluation

Rubrics

Homework 5

Score: 134 / 135 points - 99.26 %  
Level achieved: Level 1

Score


134 / 135

Grade Item: Homework 5


# On-line office hours



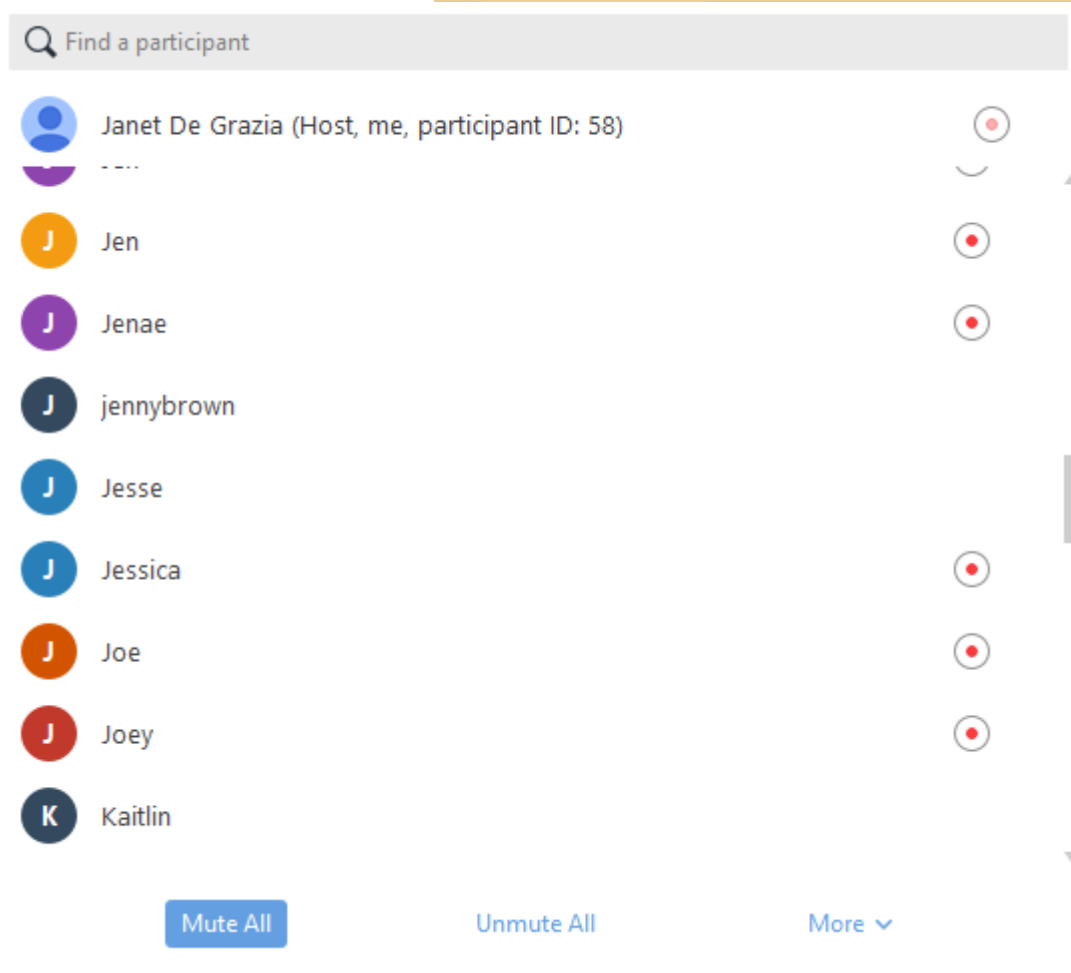
Classlist Grades Log Out Rubrics

 Desire2Learn UNIVERSITY OF COLORADO BOULDER
















CHEN 3210 - Heat Transfer

 On-line office hours

Participants (64)



Find a participant

-  Janet De Grazia (Host, me, participant ID: 58) 
-  Jen 
-  Jenae 
-  jennybrown
-  Jesse
-  Jessica 
-  Joe 
-  Joey 
-  Kaitlin

Mute All Unmute All More ▾

Zoom Group Chat

thermal circuit?

From Raka to Everyone:  
thermal circuit

From Joey to Me: (Privately)  
Can I record?

From Sorsha to Everyone:  
yep

From Brent to Everyone:  
lol I really hope so

From Shandilyn to Everyone:  
Are the BC different for the boron equation

From Raka to Everyone:  
r0

From Brent to Everyone:  
center

From Shandilyn to Everyone:  
yes

From Sorsha to Everyone:  
yep

To: Everyone ▾

Type message here...

**10.32** Consider a horizontal,  $D = 1$ -mm-diameter platinum wire suspended in saturated water at atmospheric pressure. The wire is heated by an electrical current. Determine the heat flux from the wire at the instant when the surface of the wire reaches its melting point. Determine the corresponding centerline temperature of the wire. Due to oxidation at very high temperature, the wire emissivity is  $\varepsilon = 0.80$  when it burns out. The water vapor properties at the film temperature of 1209 K are  $\rho_v = 0.189 \text{ kg/m}^3$ ,  $c_{p,v} = 2404 \text{ J/kg}\cdot\text{K}$ ,  $\nu_v = 231 \times 10^{-6} \text{ m}^2/\text{s}$ ,  $k_v = 0.113 \text{ W/m}\cdot\text{K}$ .

$$T_s = \text{melting pt of Pt}$$

$$q''_s = \bar{h} (T_s - T_{\text{sat}}) \quad \Delta T_e$$

Screen clipping taken: 10/28/2016 1:19 PM

$$\bar{h} = \text{combines } \bar{h}_{\text{conv}} \text{ and } \bar{h}_{\text{rad}}$$

$\nearrow$   $\bar{h}_{\text{conv}} \xrightarrow{\text{Nu}_D}$   $\nearrow$   $\bar{h}_{\text{rad}}$

$$E_{\text{gen}} = E_{\text{out}}$$

$$\frac{\dot{q} \pi D^2}{4} = q''_s \pi D$$

$$\text{Table C.3} \rightarrow T(r) \rightarrow \text{at } r=0$$



Introduction to fins ✓	2	0:00:06	Oct 4, 2016 2:44 PM
Heat loss from a rectangular fin ✓	2	0:03:59	Oct 4, 2016 7:39 PM
Heat loss from a cylindrical pin fin ✓	1	0:19:36	Oct 4, 2016 3:34 PM
Quiz 8 - due Monday, September 12th at 10:00 am 3.6.1-3.6.4	-	-	-
class 9 template	-	-	-
<b>Class 10 - Wednesday, September 14th</b>	-	-	-
Rectangular fin array ✓	2	0:22:10	Oct 4, 2016 7:52 PM
Efficiency for an array of fins ✓	1	0:09:58	Oct 5, 2016 5:13 PM
Quiz 9 - Due Wednesday, September 14th at 10:00 am 3.65	-	-	-
class 10 template	-	-	-
<b>Class 11 - Friday, September 16th</b>	-	-	-
Introduction to lumped capacitance ✓	2	0:13:12	Oct 5, 2016 5:23 PM
Lumped capacitance example ✓	1	0:09:56	Sep 18, 2016 4:49 PM
Methods for solving transient heat transfer problems ✓	1	0:03:41	Oct 5, 2016 5:58 PM
class 11 - lumped capacitance template	-	-	-
Quiz 10 - due Friday, September 16th at 10:00 am 5.1-3	-	-	-
<b>Week 5</b>	-	-	-
<b>Class 12 - Monday, September 19th</b>	-	-	-
Introduction to transient convection	-	-	-
One-term approximation	-	-	-
Plane wall with convection example	-	-	-
class 12 template	-	-	-
Quiz 11 - due September 19th at 10:00 am Ch. 5.4-6	-	-	-
<b>Class 13 - Wednesday, September 21st</b>	-	-	-
Analytical solution for a transient problem	-	-	-
Total energy from a sphere	-	-	-
Transient conduction in a semi-infinite medium ✓	1	0:09:31	Oct 5, 2016 6:09 PM
Semi-infinite solid ✓	1	0:02:43	Oct 5, 2016 6:19 PM
class 13 template	-	-	-

# Conclusions

- Large classes can be challenging to manage
- Using the resources of a learning management system can save time and stress
- Adding available technologies to your system can make it even more efficient
- This is only the part of how you can make larger classes easier to manage – talk to me about other techniques I've used
- And what does this have to do with John?