

How to make a Flip work

- Worksheets – Organization is the key – Read, Watch, Do
- Flip classroom logistics
- What is due and when? The Calendar
- Grade sheet and weights – transparency
- Flip success

Worksheets – organization is the key

Math 261 Derivatives 1 Worksheet

Item #	Item
1	Read and take notes on section 2.1 HOW DO WE MEASURE SPEED?
2	Watch and take notes on these videos: 1) Overview of the 2 major concepts in Calculus https://youtu.be/ZV4xnYXO88g 2) Compute average velocity http://youtu.be/LKn61xlo4ls , http://youtu.be/1z2q_dT7 http://youtu.be/WX5WNbR1WFc 3) Compute the average velocity given a table of values http://youtu.be/Gke1L4mVARI 4) Compute instantaneous velocity with algebra methods http://youtu.be/NO_kHV0kd0C 5) Walking Man 1 (refers to problems below) http://youtu.be/rWOv5Eb7ojw 6) Walking Man 2 (refers to problems below) http://youtu.be/dAJE_cbXQWg 7) Any and all example videos in this reading section in the eBook 8) Interact with, and take notes on, any Interactive Explorations in the reading section
3	Do HOW DO WE MEASURE SPEED? section problems: 1 – 6 ALL, 7, 9, 10, 12, 13, 15
4	17, 19, 20 – 25 ALL, 27, 29, 31, PLUS these two problems: A) Refer to the above Walking Man 1 video and answer these questions A man is walking on a straight path with a position function $d(t)$ where d is his position or

Flip classroom logistics

For a **2.5 hour class** meeting 2 days per week

- **Beginning:** check 2 items from Reading, Videos, Problems. Such as “From Derivatives 1 worksheet, let me see: Reading item 11; Video item 12 #3 “

I score these papers (takes 10 minutes) 0,1, or 2 points while students work on the worksheets. Pass the papers back. Students work and you answer individual questions.

- At the 1 hour mark take a 15 minute break
- **Middle:** When the class returns, do an activity, mini lecture, Kahoot, or Quiz (group or solo) for **30 minutes**. Collect and score as above (again takes 10 minutes). Pass the papers back. Students work and you answer individual questions.
- **End:** You have a choice of doing a mini lecture on FAQ , just doing an attendance check (0 or 2 points), or doing an activity. In the activity case you collect as students leave, you score it (0,1,2) and turn it back the next meeting

What is due and when? The Calendar

Math 261 Fall 2018 #21121 Calendar		Checking rule: In the current week, Reading notes, Video notes, and Assigned problem work from the PREVIOUS WEEK are due to be checked. I can check your notebook for organization at ANY time.		
	Mon	Tues	Wed	Thurs
Week 1	27-Aug	28-Aug	29-Aug	30-Aug
	Roll, Adds, Orientation to the Flip style class, Limits & Continuity Worksheet "Read & Watch" items 1, 2, and "Do" items 3, 4	5, 6 (Read & Watch item notes done outside class)	7, 8 work in class	9, 10, 12, 13
Week 2	3-Sep	4-Sep	5-Sep	6-Sep
	11, 14, Holiday	Derivatives 1 Worksheet 1, 2, 5, 6	3, 4, 7, TEST 1 covers Limits & Continuity worksheet	10, 11
Week 3	10-Sep	11-Sep	12-Sep	13-Sep
	8, 9		12, 13	15, 16
Week 4	17-Sep	18-Sep	19-Sep	20-Sep

Grade sheet – transparent to students

Math 261 Fall 2018 updated 1/18/2019					Tests (55%) Red shows replacement of lowest by final score if that was higher				Final Exam (25%)	20% Participation ave.	Participation (20%) - Reading, Video, and Homework checks; attendance, quizzes, classwork, Kahoot quizzes. Etc.									
Code	Name	facebook EC	Course Letter Grade	Course weighted %	T1	T2	T3	T4	Final Exam		29-Aug	5-Sep	5-Sep	5-Sep	10-Sep	10-Sep	10-Sep	12-Sep	12-Sep	12-Sep
1		2%	C	68.10%	72	80	65	56	65	62%	7	0	1	2	0	1	0	0	2	2
2			A	91.69%	99	100	100	90	99	67%	2	0	0	0	0	2	0	2	2	2
3			D	63.89%	78	92	54	62	62	45%	2	1	1	1	0	2.5	0	0	2	2
4		1%	A	98.44%	100	100	96	98	98	94%	7	1	2	2	2	2.5	2	0	2	2
5			F	48.81%	98	82	62	0		78%	2	1	2	2	2	2	2.5	2	2	2
6																				
7			F	25.65%	60	20	12	0		65%	2	1	0	2	0	1	0	2.5	2	2
8			C	69.72%	64	82	79	60	79	54%	7	0	0	0	0	2	0	2	2	2
9																				
10		2%	A	98.43%	94	94	95	94	95	104%	7	2	2	2	2	2	2	2	2	2
11			C	68.15%	80	86	59	58	59	72%	7	2	2	2	0	2	0	2	2	2
12			B	80.60%	92	72	62	75	75	102%	7	2.5	2	2	2	1	2	2.5	2	2
13		1%	B	79.63%	84	76	78	54	78	95%	7	2	0	2	2	2	2	2.5	2	2
14			C	70.79%	58	74	69	60	69	88%	7	2	2	2	2	2	2	2	2	2
15		1%	A	98.70%	100	98	95	96	95	102%	7	0	2	2	2	2	2	2	2	2
16		2%	A	97.32%	100	100	98	88	88	101%	7	2.5	2	2	2	2	2	2.5	2	2
17		1%	A	103.00%	100	100	100	100	100	110%	7	2.5	2	2	2	2.5	2	2.5	2	2

Flip success

- I try to provide the learning environment for **at least** 60% of students from census to receive an A, B, or C. (remember I'm teaching a Math class!)
- Everyone has their "standards" – so the job is to provide learning opportunities for your students to achieve your standards vs saying "well, only 40% passed the class and that's just too bad". No, you didn't help your students reach your standards.
- The flip style has worked for me in reaching my teaching and learning goals.
- In Fall 2018 my Calculus 1 flip class had the top average score of all 11 sections of Calculus 1 on the department common final exam.
- Students that would get an "A" or "B" in a regular class thrive in the flip since there is an independence to the method and they take on the more challenging problems – this type end up with A grades. "C" or "D" students in a regular class can end up with a B or C grade in the flip. Sadly, students that don't attend and/or don't watch the videos can end up with a D or F grade as in a regular class.