

College Algebra with Support: A Total Transformation

PERIMETER COLLEGE MATH CONFERENCE

DAVE MCLEAN, SHARON WELTLICH, ANDREA HENDRICKS

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Wanted a Different Student Experience

Course materials in one place

Interactive lessons

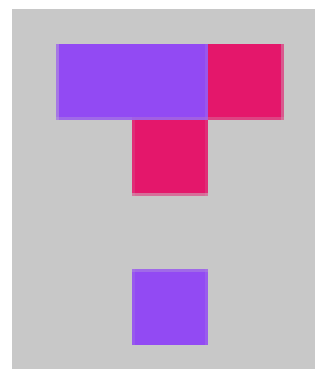
Direct students work flow


Require students to read the text

Collect work from students

One platform for two courses

Conceptual questions





What is Top Hat?
All in one teaching platform
at www.tophat.com.

The screenshot shows the Top Hat Classroom dashboard with a grid of icons for different features: Question, Discussion, Upload file, Folder, Take Attendance, Upload Slides, Whiteboard Sketch, Pages, and Top Hat Test. A link to the Top Hat Marketplace is also visible at the bottom.

Instructor Side

Create an account	Present in Top Hat
Copy course	◦ Upload PPTs, documents
Enroll students in course	◦ Annotate
Assign reading and HW	◦ Insert questions
Special settings	Grade
Special release criteria	View grades
Create your own problems, quizzes, etc.	Review student work
	Edit Pages

Georgia Perimeter College

Courses

[+ Create a Course](#)

Available Unavailable

College Algebra - Sandbox <small>PROFESSOR: ANDREA HENDRICKS</small>	Enter Course <small>Join code: 822567</small>
College Algebra with Support <small>PROFESSOR: ANDREA HENDRICKS, ALEX MACINTYRE, PROFESSOR DELAN</small>	Enter Course <small>Join code: 436853</small>
Math 1111-171 and Math 0999-078 Spring 2018 <small>PROFESSOR: ANDREA HENDRICKS</small>	Enter Course <small>Join code: 759376</small>

College Algebra with Support Contents

Math 1111

- 25 sections align to the current order of topics we cover
- Embedded questions, videos, discussion questions, conceptual questions, show your work questions
- Homework problem sets with 25 – 30 questions each

Math 0999

- 25 sections that correspond to each College Algebra section
- Present only the prerequisites for the 1111 content
- Topics and examples are framed within the context of the 1111 content
- Embedded questions, videos, discussion questions, conceptual questions
- Homework problem sets with 10 – 15 questions each
- Worksheet with additional problems for each section

Study with Purpose

- 22 lessons on academic mindset, study skills, science of learning

See Table of Contents for details.

4

Additional Resources

iCollege Course

- [Note-Taking Guides for each 0999 and 1111 section](#)
- [Additional Practice Problems for each 1111 section](#)
- [Solutions for 0999 Worksheets](#)

Question Banks in Top Hat for each course

 Question Bank for College Algebra
PROFESSOR, ANDREA HENDRICKS, SHARON WELTUCH, LAUREN FRAZIER, MARCUS RHYMER

 Question Bank for Support for College Algebra
PROFESSOR, ANDREA HENDRICKS, SHARON WELTUCH, LAUREN FRAZIER, MARCUS RHYMER

≡ [Section 1 Linear Equations Overview and To-Do List](#) ▾
Web Page

≡ [Section 1 Prepare for Linear Equations Note-taking Guide \(Math 0999\)](#) ▾
PDF document

≡ [Section 1 Prereq Check Solutions \(Math 0999\)](#) ▾
PDF document

≡ [Section 1 Prereq Check Solutions \(Video\)](#) ▾
Link

≡ [Section 1 Linear Equations Note-Taking Guide \(Math 1111\)](#) ▾
PDF document

≡ [More Practice on Linear Equations - Optional](#) ▾
Web Page

≡ [Solutions- More Practice on Linear Equations](#) ▾
Web Page

≡ [Section 1 Questions](#) ▾
Discussion Topic

Post your questions related to Section 1 here.

Teaching with Top Hat

Face-to-Face

- [Traditional with Technology](#)
- [Traditional with no Technology](#)
- [Flipped Classroom](#)
- [Hybrid Course](#)

Online

Fall 2017 – Top Hat in Math 1111

Instructor	A	B	C	D	F	W	Total	%ABC	%DFW
A	10	12	17	5	14	9	67	58.2%	41.8%
B	32	9	14	0	14	9	78	70.5%	29.5%
C	3	11	15	2	9	10	50	58%	42%
Total	45	32	46	7	37	28	195	63.1%	36.9%
College-wide								57.5%	42.5%

Fall 2016 – Connect Math in Math 1111

Instructor	A	B	C	D	F	W	Total	%ABC	%DFW
A	6	14	14	15	17	6	72	47.2%	52.8%
B	31	20	12	7	14	12	96	65.6%	34.4%
C	0	5	5	1	7	7	25	40%	60%
Total	37	39	31	23	38	25	193	55.4%	44.6%
College-wide								48.9%	51.1%

Top Hat

In the classroom

Sharon Weltlich

Georgia State University/Perimeter College
Dunwoody Math Department

My Previous Teaching Style...

- I created an outline of notes for the day's lecture and posted them in iCollege
- Students came to class and listened to my lecture and filled in their notes
- I lectured for 1 hour and 16 minutes 😊

My Present Teaching Style...

- I create an outline of notes for the day's lectures and post them in iCollege **AND Top Hat**
- **Students READ The book and watch videos BEFORE class**
 - **They answer some questions that are embedded in the sections**
- Students come to class and listen to my lecture and fill in their notes - I lecture for **55 minutes**
- **Students get out their phones/laptops**
 - **I present 2 to 4 questions that pertain to the lecture**



Top Hat...you can start slowly

- You may choose to simply teach from the book as usual. The sections in Top Hat are matched perfectly with our teaching guide.
- The students will still be able to use the eBook in Top Hat and watch videos and practice problems. Top Hat can be an extra resource to your lecture.

Content Driving Students...

Students benefit from Top Hat even if you choose not to use it...

1. Students can read the interactive book and answer the embedded questions.
2. Videos are embedded in the content. (If students do not enjoy "reading" the content, they can watch the video)
3. I love how the Top Hat content ...flows/connects 😊
4. They are learning...familiarizing themselves with terminology before class

...Instead of going straight to homework problems...

The screenshot shows a digital textbook interface with a list of sections and items. Annotations are made with colored arrows:

- A blue arrow labeled "Motivation!" points to the "Section 4 Rational Equations" header.
- Two purple arrows on the left point to the "Rational Equations" item: "Book content for College Algebra" and "Homework for College Algebra".
- Three yellow arrows on the right point to prerequisite-related items: "Book content for prerequisites" (points to "Prepare for Rational Equations"), "Worksheets on prerequisites" (points to "Prerequisite Check for Rational"), and "Homework on prerequisites" (points to "Test Your Understanding: Prep...").

The visible text in the interface includes:

- Section 4 Rational Equations (8 items)
- Study with Purpose - Mindset
- Prepare for Rational Equations
- Prerequisite Check for Rational
- Test Your Understanding: Prep...
- Rational Equations
- Test Your Understanding: Ratio...
- Section 5 Other Types of Equations (8 items)
- Study with Purpose - Goals
- Prepare for Other Types of Equ...
- Prereq Check for Other Types of... (2 slides)
- Test Your Understanding: Prep...
- Other Types of Equations
- Test Your Understanding: Othe...
- Section 6 The Rectangular Coordinate... (7 items)

Top Hat...you can start slowly

- You may choose to simply teach from the book as usual.

OR you can start using the many features in Top Hat...gradually...

1. **Polling** My favorite!
 1. export problems from homework
 2. Create your own questions
2. **Interactive book** (flipped classroom) – Like this too 😊
 1. Edit the book
3. Annotating and uploading notes
4. **Homework problems**
5. Insert a page of reminders

My view of Top Hat...

Green – not assigned

Yellow – Review mode
Students can practice but
no grade assigned

Orange – Assigned for
grades

Quiz – in creation process

Not assigned

Assigned – due in 4 days

Quiz – assigned but
not opened

Students View of Top Hat...

In class Questions

My Notes

Book Content

Homework

My Notes

Book Content

Homework

Due dates

Linear Functions and Linear Equations in Two Variables

Book Content

In-Class Questions (polling)

Example of an in-class question

Assigned as Review



Q6 (10/3) Piecewise-Defined Function

Evaluate $g(-4)$ given that

$$g(x) = \begin{cases} -4x + 1, & x < -5 \\ -3x - 4, & x \geq -5 \end{cases}$$

☐ A -16

☐ B -15

☐ C 8

☐ D 17

Sometimes I do 1
problem at the
beginning of class

Example of an in-class question



Perfect Teaching Moment!!!

Book Content and “my” Reading Assignments

College Algebra
with Support

Andrea Hendricks

Wonderful Book

With
prerequisites

You can even edit
content

I can edit the book content...

Page from book

Compose functions.

Another way to combine functions is to find the composition of functions. When we compose two functions, we are essentially substituting one function into another function.

Definition: Composition of Functions
If f and g are functions, then f composed with g (read " f of g ") is defined as:
 $(f \circ g)(x) = f(g(x))$ (x is in the domain of f)

Figure 4 illustrates this concept.

Watch the following video for more instruction and examples of composing functions.

Close | Picture | Tables | Question | Discussion | Math | Audio | Video

Add a picture

Add a question

Add a video

My Grading...

Top Hat GRADE

20%

1. Reading Assignments/interactive eBook
 - (due before class)
 - ½ credit for answering
2. In-Class Questions (polling)
 - ½ credit for answering
3. Homework – online

- Quizzes – online 10%
- Tests – paper and pencil in class 45%
- Final exam 25%

My Grading...

Top Hat GRADE

1. Reading Assignments/interactive eBook

- (due before class)
- ½ credit for answering

2. In-Class Questions (polling)

- ½ credit for answering

3. Homework – online

• Quizzes – online

• Tests – paper and pencil in class

• Final exam

20%

Flipped classroom
"sort of"

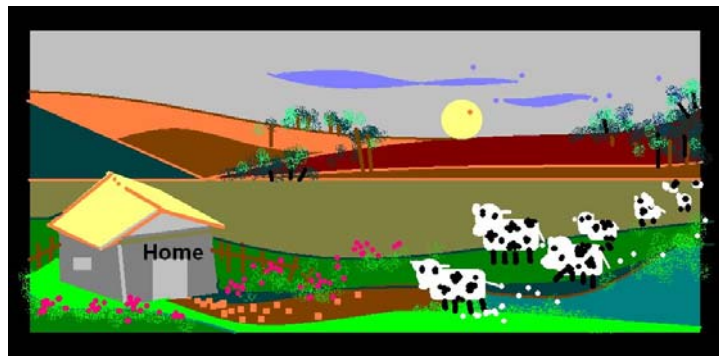
Getting students engaged!

10%

45%

25%

I can talk until the cows come home...



but is that what millennials respond to...



“When are we getting to the class questions?”



After millennials...we have Gen Z coming

Students in Generation Z were born into a world of commonplace technology use. The Gen Z population will expect nothing less from their classrooms in college.

TOP HAT

Working at a “semi” flipped classroom

Top Hat has helped me change my way of teaching.



Engaging students during class



Sharon Weltlich
sweltlich@gsu.edu

Multiple Choice

Fill in the Blank

Word Answer

Title: Q1 Solve the equation

Numeric Answer

Question: Solve the equation $x^2 - 2x = 8$. Enter the solution set below.

Formula

CORRECT ANSWER

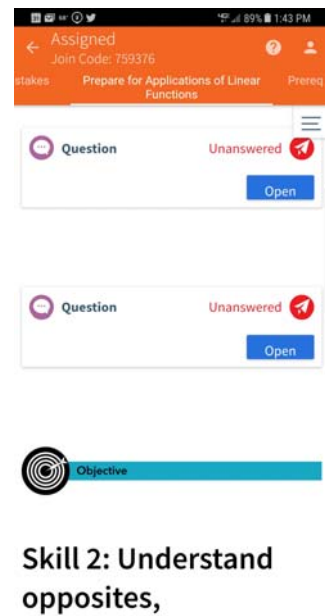
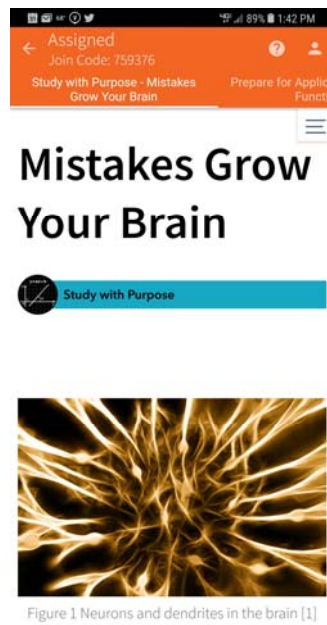
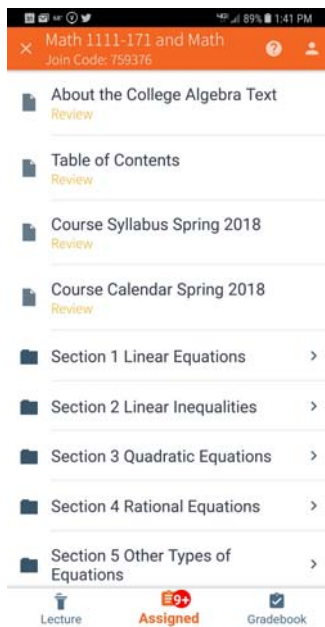
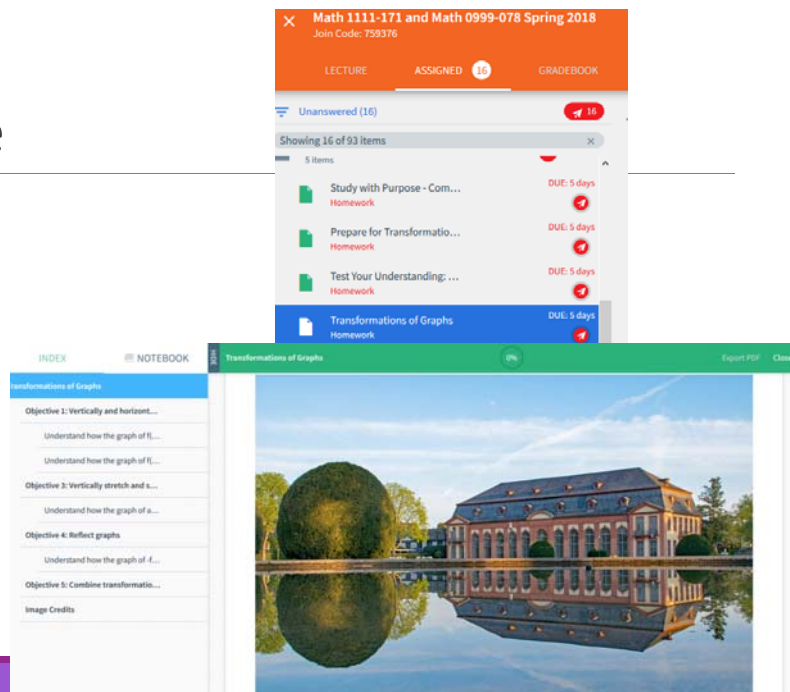
$\{-2, 4\}$

+ Add another answer


<http://www.wiris.com/editor/demo/en/mathml-latex>


Student Side

- Create an account
- Access free trial
- Enter paid access
- Download app
- Use the materials
- Complete assignments
- Interact in class
- Review material
- View grades



Top Hat Support


Live Chat: Online


Help

Help & Support

Interactive Guides


How Can We Help You?


[? Guides](#) [✓ Your Training Guides](#)


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- ☐ Create a Click on Target Question
- ☐ Distributing Questions
- ☐ Creating a Discussion

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