

Module 1: Grit, Growth Mindset, and Math Anxiety

What Students Should Gain from this Module

At the end of this module, students should be able to:

- Explain what grit is
- Explain how grit contributes to success
- Recognize grit
- Identify ways to be gritty
- Demonstrate grit
- Explain what a growth mindset is
- Explain how a growth mindset contributes to success
- Explain how failure contributes to success
- Recognize a growth mindset
- Identify ways to build or strengthen your growth mindset
- Demonstrate a growth mindset
- Identify strategies to reduce math anxiety
- Apply strategies to reduce math anxiety




Recommended Timing for this Module 1 hour 35 minutes



Required Equipment and Materials

- An LCD projector and a Windows computer or laptop. The computer should have high speed internet access, a recent version of PowerPoint, an updated Internet browser, and speakers
- Cords for connecting the LCD projector to the computer
- A screen visible to all in the room
- A flip chart easel and pad (preferably self-adhesive/Post-It)
- 1 set of flip chart markers
- *Grit, Growth Mindset, and Math Anxiety* PowerPoint file
- A copy of the *Being Gritty* handout for each student and instructor
- A copy of the *What is Math Anxiety and What Can I do about it as a Student?* handout for each student and instructor
- A copy of the *What is Math Anxiety and What Can I do about it as an Instructor?* handout for each instructor
- Extra copies of the “Brush Up” worksheets for students who might want them



Time	Activity	Materials	What to Do
1	Introduction		
10		 	

Ask what skill or characteristic they think will be most important to their success in this class and in the trades.




Say that you are going to consider a few stories of people who were not successful.... at first.

Introduce and show the Famous Failures YouTube video: <https://www.youtube.com/watch?v=zLYECljmnQs> (2 min 58 sec)

Ask what skill or characteristic they think helped each of the people in the video succeed even after they were unsuccessful at first. (If necessary, suggest the idea of grit.)

Ask who has heard of grit and what it is.

Ask if they know other words related to grit. (e.g. persistence, drive, dedication, etc.)

Time	Activity	Materials	What to Do
1	Review Module Objectives	 <p>At the end of this module you should be able to</p> <ul style="list-style-type: none"> Explain what grit is Describe what it means to have a growth mindset Explain how grit,毅力, and a growth mindset contribute to success Describe how you can develop a growth mindset 	<p>Review the objectives.</p>
35	Grit Video and Discussion	 <p>Handout: <i>Being Gritty</i></p>	<p>Introduce and show the Duckworth YouTube video on grit: https://www.youtube.com/watch?v=H14bBuluwB8 (6 min 13 sec)</p> <p>Pass out <i>Being Gritty</i> as they watch the video.</p> <p>Ask how they would describe grit in their own words – capture answers on the board or flip chart.</p> <p>Ask how grit contributes to success.</p> <p>Have students write their answer to questions 1 – 4 in the <i>Being Gritty</i> handout.</p> <p>Invite students to share their responses.</p> <p>Share a story of how you were gritty when learning a new skill or achieving a goal.</p>
25	Growth Mindset Video and Discussion		<p>Ask what Dr. Duckworth says is the best idea she has heard for building grit. (growth mindset)</p> <p>Ask what they already know about growth mindset.</p>

Time	Activity	Materials	What to Do
			<p>Introduce and show the Growth Mindset You Tube video. https://www.youtube.com/watch?v=Yn966v5INaI&index=6&list=PL4111402B45D10AFC (10 min 52 sec). If short on time you could begin at the 3:16 mark.</p> <p>Ask how they would describe growth mindset to someone who was unfamiliar with the term.</p> <p>Ask how grit and growth mindset are related.</p> <p>Ask how failure + a growth mindset can help them be successful in class and on the job. (Refer back to the Famous Failures video if necessary)</p> <p>Ask what the speaker suggests they say if they hear themselves, or others, say they can't do something. (can't <i>yet</i>)</p> <p>Ask whether the concepts of grit and growth mindset have meaning for them and, if so, in what ways? (Encourage students to apply the concepts to their ability to be successful in class and on the job.)</p> <p>Ask whether and how they would change their answer to the question posed at the beginning: What skill or characteristic will be most important to your success in this class and in the trades?</p> <p>Ask what they could do to recognize each other, publicly or privately, when they demonstrate grit or a growth mindset in class or on the job site. (For example, they could each have a supply of stickers, which you or they provide, that they could give to classmates who demonstrate grit or a growth mindset.)</p>

Time	Activity	Materials	What to Do
			<p><i>One way for students to strengthen their understanding of grit and growth mindset is to recognize when their classmates or coworkers demonstrate them. Throughout the course, remind students to watch for their classmates demonstrating grit or a growth mindset so they can recognize each other, publicly or privately, when they do.</i></p> <p><i>For some students, developing or strengthening grit and growth mindset will require that they develop new habits, monitor their own behavior, and recognize when they have been successful. You can help them develop those habits through regular reminders. Once each week, at the beginning or end of a class meeting, give students a few minutes to write down one thing they did or could have done which demonstrates their growth mindset or grittiness. Invite students to share a few examples.</i></p>
10	Planning to Apply their Learning		<p>Have students write their answers to the questions under Commit to Grit on the <i>Being Gritty</i> worksheet.</p>
10	Math Anxiety Strategies	<p>Handout: <i>What is Math Anxiety and What Can I do about it as a Student?</i></p>	<p>Say that math is used a lot in construction. Many people feel some anxiety about math, and that might be true for some in this class. The good news is that there are ways to reduce math anxiety.</p> <p>Pass out <i>What is Math Anxiety and What Can I do about it as a Student?</i></p> <p>Review key points from the handout:</p> <ul style="list-style-type: none"> • Is not the inability to do math! • Might be the result of exposure to negative messages about math or difficulty with math in the past • Make sure they have single-digit addition, subtraction, multiplication, and division memorized

Time	Activity	Materials	What to Do
			<ul style="list-style-type: none"> • Try breathing, free writing, or other self-relaxation exercises before starting math • Ask for help • Practice • Have a growth mindset about math <p>Review the <i>Brush Up</i> worksheets they can use to commit single-digit addition, subtraction, multiplication, and division to memory (if they have not already).</p>

