Math 162 will help you "future-proof" your Education

After careful research, the Learning Futurist for Muskegon Community College compiled a list of the skills that she believes will make you a valuable worker even as careers and technology shifts. These skills are not particular to any discipline – they are skills that overlay the content that you learn. To prepare for an uncertain economy, you should strive to practice and improve on the skills listed below.

In this class, you will practice and improve on many of these valuable skills. These are outlined below.

FOCUS	
Mange your information stream	You'll need to check your email, view resources for help in Blackboard, complete homework in WebAssign, and monitor the discussion boards in WebAssign. All of these are digital activities – and you'll need to manage all of this without becoming too distracted by social media and web surfing.
Pay attention to details	Paying attention to detail is vital to every problem you work through in your study of mathematics. In this class, there will be focused attention on notation and correct mathematical steps.
Remember (when you need to)	For Exam 1, you will need to demonstrate knowledge of the integration and derivative rules. You will not get to use notes on any of the exams. You will have to remember enough about the strategies to get through the exams using your own brain!
Set and meet goals	Completing homework, discussion board posts, and learning notebooks by the listed deadlines are examples of being able to set and meet goals for yourself.
EXPLAIN	
Speak so others understand	In class, we will do "paired board work" and group work where you will have to communicate your ideas about how to solve problems with a partner or other group members.
Write so others understand	On discussion boards, you will ask questions and explain how to solve problems to other students. This will improve your ability to write about mathematics and help you use the vocabulary of mathematics. On exams, especially Exam 4, you will have to demonstrate your ability to explain (in writing) how a problem is solved so that a person who is not in the room with you (your instructor) understands your argument.
FLEX	
Change your bearings	While studying Techniques of Integration and Series Convergence & Divergence, the first (and seemingly best) strategy is not always the right one. You'll have to be able to determine when a method is failing, and then adjust course to try a new one.
Adapt to new situations	Sometimes students feel uncomfortable working at the boards with a partner, doing homework online, or participating in discussion boards. If you are one of those, consider this a chance to learn to adapt to a new situation (and an example you could use in a job interview about how you learned to cope with a new situation).

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INTERACT	
Collaborate face-to-face	You will participate in "paired board work" and group work where you will have to communicate your ideas about how to solve problems with a partner or other group members.
Collaborate virtually	On discussion boards, you will ask questions and explain how to solve problems to other students. You will participate in a community of learners and sharers that is similar to that which you might participate in a large multi-state or multi-country organization. You also have the option to make an office hours appointment over Skype or Vyew.
Guide others	During "paired board work" and group work, you will have the opportunity to guide others when they are having difficulty with a concept. You should seek out these opportunities to hone your skills.
ANALYZE	
Solve problems	Since this is a math class, there will be lots of problem solving practice. In particular, we will solve many real-world problems in Unit 3 (Differential Equations).
Think critically	Topics like Techniques of Integration, Volumes of Rotation, and Series Convergence and Divergence provide a great opportunity to see if you can think critically. In all of these topics, you are presented with a "toolbox" of strategies that might work to solve the problem. The hard part is not executing the technique, but carefully analyzing the problem to determine which techniques might be appropriate.
Make decisions	While studying Techniques of Integration and Series Convergence & Divergence, you will find that you can very easily become paralyzed by indecision. There are so many possible strategies, which one should you choose? You'll find that you need to just be brave and make a well-informed decision, even if you feel uncertain. You'll encounter this same feeling when making decisions in the working world. Decisions are rarely easy.
LEARN	
Synthesize the details	It's easy to get bogged down in the details and myriad of strategies of Calculus II, but you'll need to see the forest through the trees to pass. In other words, you'll have to synthesize and make sense of the details to make decisions about strategy choices.
Reflect and Evaluate	At the end of many types of problem, I'll ask you to summarize the problem solution and techniques used to make sure you reflect on what works and why.
Know what you know	When it's time for an exam, it will be vitally important for formulate a study plan based on knowing what you know. The temptation can be to study what you know well (it's more fun) but the best students evaluate what they know and don't know, and focus on learning what they don't know.
Formulate good questions	On discussion boards, you'll get help faster if you formulate good questions. "Can somebody help me with this?" is not a good question. A good question tells us what the problem is, what you tried, and where you think you might be stuck. Questions like this will get prompt feedback from myself and your fellow students. The same goes for questions asked in class or during office hours – if you've thought through what to ask, you will get a lot more out of the answer.