

(a)

1. Inverse Trigonometric Functions
2. Sum and Difference Formulas
3. Vectors and Dot Products

(b)

1. Review the lecture content everyday- this quarter I have Monday to Friday class. Every day will cover new lesson, it's better review every day after class.
2. Do the homework after the lesson just covered- because I can pick up the lesson easily.
3. Ask friends or instructor question- asking is fast and correct.

(c)

1. I didn't quite understand why the formula comes from- sometimes it will be easier to remember if I know how the process of the formula comes from.
2. Sometimes I will mess up the formula- I should be familiar with all formulas but sometimes I'll mess up.

Math 42 (Trigonometric Functions)

Throughout the course, there were some topics that I was not totally able to master right after they were taught and that later on affected my performance in some way. Such topics include reference angles, the applications and models of trigonometry, like bearing, and proving identities. A recommendation that I can give to future students is to read the textbook. At the beginning of the course, it is stated that reading the textbook plays an important role when it comes to grades, which might sound insignificant. However, it is actually true that reading affects your grade because some of the problems on midterms come from the content on the book. Taking good notes during lectures can also be helpful. If you take good notes, you can always go back and take a look on how to solve problems. Also, reviewing notes before a quiz or test can improve your score. Another suggestion is to prepare well for midterms. There are many tools that you can use in order to do well on the tests, so it is recommended to take advantage of them. One way you can get ready for a test is to use the review sheets as a test, so you can test yourself and study more the material that you have more difficulty with. On the other hand, a mistake that I often saw during the class, and even experienced myself was leaving a material to learn for later. This is a huge mistake because most of the topics build up from previous material. Therefore, not fully understanding a topic cannot be an option because it most likely will cause you to not do well on coming topics. In addition, feeling over confident is another mistake that I experienced as well. This could lead you to not succeed, since levels of difficulty of the problems solved during class are different to the ones on tests, and that is mainly because material from lectures adds up to the textbook content. As a result, you could find yourself clueless in the middle of the exam.

The three topics that I did not master in the beginning of the class that caused me to do worse in the class was understanding the unit circle/ right triangle trigonometry, trigonometric graphing (specifically knowing the characteristics of each graph), and the trigonometric identities (specifically Pythagorean and double angle identities).

The first recommendation for success is to do the midterm review packet thoroughly. A lot of the review questions will show up in some form on the midterm. If you do not know how to solve a question, get help immediately because there is a high probability the question will show up later on. The second recommendation for success is obvious, but a must, show up to every class and take detailed notes. Even one class will set you behind because there is a lot of material covered in such a short amount of time. Even if you get the notes from a classmate, you might not actually understand the material which will put you further behind. The third recommendation is to form a study group or form some sort of partner communication. Although the teacher is always the best option to ask questions, there are times where a fellow classmate might be able to help. This also helps because in case of a last minute pre-midterm question, the teacher might not always be available.

The first study mistake that hurt my chance of success was thinking that I could slide by with minimal studying, simply doing the homework and attending class. All topics build on each other, so even something covered in the first chapter could potentially be on the last chapter midterm. I learned the hard way because I thought that I would not need to retain some of the information, but unfortunately that's not true. For example, the trig identities are used throughout the whole quarter, so if you don't understand it originally you need to learn it quickly. The second study mistake was not reading the textbook. Although the lectures provide solid information, the textbook provides all of the information and can give a different look on a topic that you may not understand from the teacher. Also, although you aren't explicitly assigned textbook homework, doing problems from the textbook would help reinforce material covered in class and online.

During the course of the class, the 3 topics that caused me to have problems later on in the class due to not knowing them thoroughly would probably be trigonometric identities, applications of trig involving triangles, and essentially some of the unit circle. These three topics seemed to give me the most trouble as throughout the quarter, I had major difficulty applying the topics. I would be able to understand the examples explained during the lectures in class, but for some reason applying these topics gave me great difficulty which may have resulted from a lack of practice. This became really troubling as trig was resurfacing multiple times later in the quarter and due to my lack of knowledge surrounding trig in general, I did extremely poorly. There it is one's best interest to study up on trig and ensure that you can easily manipulate equations involving trig when taking this course. If I could "redo" things I did this quarter, probably would have bombarded the professor with questions about trig and practiced them a lot more. Trig identities were basically everywhere in the chapters covered during the course so knowing them thoroughly will definitely aid greatly in passing the class. Being too timid to ask questions or to ask the professor to reiterate some things during lecture is also a huge mistake.

In order to increase your chances of success, I would firstly recommend taking advantage of office hours and having a list of questions readily available. Obviously this entitles that one does their work in a timely manner so that would also help a lot in increasing one's chances of success. Another people should do in order to increase their efficacy in passing the class is probably to do assignments much earlier and jot down any questions that arise in order to get help during office hours or even getting help from other people from the class. Having studying partners and other such things will also greatly help one to pass the class with ease. And finally, practicing problems out of the book would be extremely helpful. While being an obvious thing to do, it can be ignored and this can cause issues as one may not be as comfortable with the subject and this snowballs very harshly.

Some personal errors I made would be not studying enough for exams and ultimately not knowing trig identities as well as I could have. Not studying enough for exams already has a heavy hand in weighing one's academic career down, but not knowing the key concept/topic needed throughout the course was especially punishing. This is not just a result from not studying, rather it comes from not using the resources readily available for the student and also makes passing the class significantly harder.

Short Writing: Personal Development

Throughout this semester, I have struggled to make a meaningful progress on the topic of Math 42. This entails finding the inverse as well as the radians and degrees of trig functions. Secondly, graphing trigonometric function is another problem I have struggled with in this quarter. The graphs are a branch of mathematics that deals with the amplitude and period. Lastly, the vector topic has also made my semester challenging. From the very first day introducing vectors, I could not fully understand the vector unit function, through webassign practices, i am now confident with it.

Regarding what to do to increase the chances of success, I believe that the adoption of the appropriate strategies is the best practice. To begin with, it is crucial to identify a particular friend to become one's study partner. I find this relevant since at times one might fail to fully understand the class. In light of this, the selected friend will take good notes and ensure that you are acquainted with the assignments. Secondly, it is vital to do all the webassign homework. It is not appropriate to consider the assigned work as a choice. Completing tasks is crucial as it enables to practice as well as acquires a better understanding of the taught concepts in class. Thirdly, getting an immediate assistance is essential. It implies that in the event of realization of a difficult concept one should take the initiative of seeking help as quickly as possible. It enables one to solve the misunderstandings on time before they pile up.

Were it not for the mistakes I committed during the start of the course; I would otherwise have an easy time with the above topics. To begin with, I ignored the use of study guides to facilitate my extra practice. As soon as I realized that the class text was not sufficient for my understanding, I would make good use of study guides. They are essential as they tend to be equipped a detailed explanation regarding the same concepts. Moreover, I failed to review the notes the night before attending the class. At times, it can be demoralizing, when the teacher calls upon groups to solve a particular problem on the whiteboard and experiences difficulties. For this reason, it is vital to review the notes to be able to identify the concepts and questions requiring more attention.

Personal Development Exercise:

Julio Guerrero

Topics not master earlier:

1. Reference and coterminal angles.
2. Graphs of Sine and Cosine.
3. Inverse functions.

Recommendations:

1. My first and most important recommendation is to pay attention in class and understanding the content taught before every midterm. If you put all your concentration in the lecture you will see that the content will make sense more easily. Understand before every midterm because the mistakes that you do in quizzes may help you later on.
2. Taking notes of the lectures is a key in order to succeed in this class. Most of the things the instructor writes will help you because it could have key concepts, key words or examples that later will appear on quizzes or exams. Always copy things that you think will help you and understand it while taking notes, not just copy.
3. Getting help from the textbook and your peers is also a very important recommendation in order to succeed in this class. This does not mean to copy homeworks from other peers. Some of the assignments are very confusing and comparing answers or getting help from someone is very helpful. So, try to get the contact from another peer.

Mistakes:

1. I never read the textbook after each lecture and that I think was my biggest mistake during this class. Not reading the textbook limited me in my learning by learning only one process. The textbook can help you with example problems.
2. Another mistake was to memorize the things rather than understanding what is being taught. When you memorize something you block your brain in order to understand something in a different way. Not understanding the concepts from the beginning harm me in my understanding.

Personal Development Exercise

[a] While I understood most of the topics, three that gave me trouble were inverse trigonometric functions, graphs of other trigonometric functions, and the plethora of formulae with regards to analytic trigonometry. The reason I did not master these topics was because while I could understand how to solve them, I didn't understand why they were solved. It is important to not only understand the concepts, but also to understand why and how these concepts make sense.

[b] 1) Get enough sleep. If you're falling asleep in class due to lack of sleep, you will not succeed. Even if you take notes, and manage to stay awake, your brain won't form the necessary connections needed to remember and understand the concepts of the day.

2) Do the homework. The homework, while understandably a chore, will help you fully bring together the topics worked on for that section. In addition, there are tutorials that can be accessed to help further guide your understanding of the topic.

3) Work with a group. While this may be more of a personal bias, working in groups is a good way to get questions answered and help out your fellow classmates. The best way to learn a topic is to teach it yourself; it is much easier to see mistakes and learn from them from a teacher's perspective, as opposed to listening and writing down notes, and not *really* comprehending the concepts.

[c] One personal mistake I made was not getting enough sleep. While I used this point for part b, and the PDF specifically states not to use the opposite of your recommendations, I feel this is a valid point to be made. In addition to the reasons stated in Part [b], Section 1, not getting enough sleep made it very hard to remember all of the core concepts and topics that were covered. I would get down notes, but not fully understand why the answers made sense. Understanding not only how, but why concepts are solved is crucial to your success in this class.

Another example of a blunder of mine would be that I fully utilized my absences and late days. On the days that I missed, topics were covered that would later come to haunt me on the quizzes and multiple midterms that we were subject to. While the reasons for coming to class are obvious, the pros far outweigh the cons in ways that are only realized at the end of the quarter (i.e. the final grade)

Drink coffee, get some sleep, and good luck.

Math 42
3/28/2017

Personal Development Exercise

- a) Three topics from earlier in the class that are extremely helpful later on in the class if you master them are knowing the fundamental trigonometric identities, the unit circle values, and understanding application terms such as angle of elevation/depression and bearing.
- b) To increase your chances of success, don't just read the chapter section prior to the class, but also look at the homework beforehand. This helps you understand the basic material of what you will learn in class and will give you an idea of what to pay attention to while taking notes. By going over the problems and seeing which ones you would be able to solve just using the textbook and which ones you need more information on, you can take more precise notes and can ask for clarification on more specific things. In order to be successful, you should also attend every class because a lot of material is covered in one lecture. Also, since everything you learn connects to another concept, being absent for one topic can leave you confused for many others in the future. The lecture are extremely important for getting the specific information and simply copying someone else's notes will not give you the full explanation you might need. Lastly, since this class contains many formulas you need to know about, memorize them as soon as you get them. These will constantly be showing up in different lessons and tests or quizzes, so knowing them will save you a lot of time while doing the work. It also prevents you from having to relearn all of it before the final, which is nearly impossible.
- c) During this quarter, there were some exams for which I started studying too late for. I would try doing all the problem on the study guide a day before the test and would not be able to ask for help if I was confused on anything. Some of the tests contained topics that I had not mastered because I started so late, which affected my grades negatively. I also know that just using the homework to study will not be beneficial. In order to succeed, you will need to use all resources, including the textbook, study guides, and homework to study because the exams contain material from everywhere. Simply studying through one of the resources only gives you access to a fraction of the types of problems that you could be tested on, so use your materials wisely.

Personal Development

Precalculus II: Trigonometric Functions

Math 42 (M-F 9:30-10:20)

Instructor : Bert Lo

a) Specific topic

Before you take a trigonometry class, you need to understand and memorize basic formulas from algebra: linear equations, quadratic function, polynomial, inverse function and graphing. To study Trigonometry successfully, students complete prior algebra.

b) Three recommendation to study successfully in math 42,

First, it is important to arrive on time. Students sign up computer based attendance everyday. Instructor is very strict and you need to arrive on time. I have a lot of Quiz and midterm, so you had better arrive before 10 minutes of class time.

Second, I recommend that free private tutor session. Even though I meet a math tutor once a week, I have learned a lot from private math tutor. I met the same tutor once a week for the entire quarter which helped me to draw properly on word problems and find my mistakes. In my first quarter, I had a lot of mistakes and I didn't understand many concept. Drop-in tutoring also help me a lot. I spent a lot of time in tutoring center because this class have a lot of assignments like quiz, midterms, final exam and additional homework.

Next, you memorize new formula completely and take note well at math class. You need to understand many concepts of lecture properly. If you didn't understand concept, you can not solve problems. You go back and check concept again. Specially, it is important to draw properly on word problems. If you have mistake on drawing, your answers are all wrong. You should memorize and learn how to use calculator in many different ways.

c) Personal mistake

First, bearing problems are very difficult to me because I always have mistake on my drawing. I practice a lot but still it is hard to draw properly on word problems.

Second, vector problems hurt my self-confident. The concept is not hard, but the problem often make me mistake.

Personal Development Exercise

Topic B: 3 recommendations for what a student should do to increase their chances of success, and why each one is helpful

My first recommendation is study before the lesson. This recommendation is about the importance of preview. When a student is learning some new knowledge, doing preview can help them better understand what the lecture is about. In addition, when students find something can't understand, students can understand after the professor introduce in class. Otherwise, if you don't learn before the lecture, you can't understand 100% of the lecture. Therefore, previewing is important for students to succeed.

My second recommendation is review frequently. After the lecture finish, you should review frequently since if you don't do that you will forget what you are learning after few days or weeks. Therefore, when you have a quiz or test, you will spend lots of time on review and you may forget some new knowledge. For example, you can study your notes or you're your textbook frequently. However, I prefer you to communicate or teach other people, then you can remember things better.

My last recommendation is doing exercises. After the class finish, you will have some homework to do. Sometimes the homework is very easy and has only a few questions which only spend less than 1 hour to do, but sometimes you may find some different type of questions on exam. Therefore, I encourage you to do some other exercise on the textbook. So that when you find some problems you can't do it, you can ask the question in class or ask teacher during their office hours.

Personal Development Exercise

Math 42 is a fast-paced class that requires understanding, rather than memorization. Concepts are often related, and lack of comprehension or even slight confusion in one area can lead to larger problems down the road. For example, mastering the sine, cosine, and tangent graphs once introduced would have saved me significant time later in the quarter. It is the basis of several topics covered in the class, and if you take the time early on to understand the shapes, transformations, and scales of the graphs, you will have a stronger foundation later. Also, gaining proficiency in trigonometric identities once introduced is key to your success both in the latter half of this course, and probably throughout future calculus classes. They are intuitive if you spend the time outside of class to fully understand the logic behind them. Finally, bearings are important to understand early in the quarter. The concept may seem simple at first, but completing different types of such problems will help you feel more comfortable when you are later asked to perform variations on them. The answer to bearing questions rests in the diagram you draw, so it is vital you can quickly and correctly draw them.

In order to be successful in Math 42, you must be present during class, take thorough notes, and make use of the math tutoring center. Being present during class means not only consistently attending it, but also being aware of what is going on. It is easy to zone out, copy what the professor is writing, and think you can catch up later, but this will hurt you in the long run. Many new concepts are taught every day, and it is essential that you take the time to master or further understand them sooner rather than later. Otherwise, in the few days before the midterm, you will find yourself confused and overwhelmed. Being present ties into my next tip, which is to take comprehensive notes. During class, the professor will be both writing and orally explaining ideas. While the written notes are thorough, it is also important to acknowledge what the professor is saying. Often, ideas can be better expressed through words, which can be exhaustive to meticulously copy down. Instead, supplement written notes with a few clarifying explanations translated into your own words. This will help you better understand your notes in the future, and in the moment, since you will have immediately processed the information in your own way. Jotting down brief explanations will only take a few seconds, but save you significant time later. The last tool that is vital to your success in this math class, as well as any other, is the tutoring center. It is a free resource that should be taken advantage of, and is well worth your while. Individual Tutoring offers specific one-on-one time, allowing for specific learning with a knowledgeable tutor. Drop-in Tutoring is convenient, but not as focused, since the student to tutor ratio is higher. All the tutors are friendly, helpful, and ready to do their job - which is to help you. There are also computers at the tutoring center, so if you have questions about the WebAssign homework, it is easily accessible. I have found that talking out concepts and solutions with tutors has increased my understanding because it has forced me to articulate my thoughts, and the explanations behind them. As stated on Professor Lo's website, "No one cares more about your success than you", so take control of your learning, and the results will follow.

Throughout this quarter, I have come to understand there is no substitute for attention; it is crucial. All too often, I have seen students distracted by their phones, or skipping class and eventually dropping out. Math 42 is rigorous and demands your focus and presence. Missing even a few minutes means missing out on foundational concepts, setting you up for difficulty later in the course. Even though the class may sometimes seem overwhelming, resist the urge to shut down and zone out - instead, take a deep breath and stick with it. Another fault I have seen both in myself and other students is failing to read the textbook. While the lectures in class may seem thorough, the textbook is the basis for these lectures. By reading the textbook, you are reading the outline of the information taught in class, which provides both decent summary and examples. Not reading it leaves you with only with your notes, which are more limited and can vary in quality. Failure to read also leads you to miss out on extra practice problems, which are an ideal supplement to your learning. I wish I had been more careful in reading the textbook because it would have offered me additional guidance and clarity when my notes were lacking.

Math is not my best subject, which makes it all the more important for me to be dedicated and persistent in this course. I recognize that if I want to do well, I will have to put in considerable effort, but because my education is important to me, I am motivated to do so. Reflecting on this quarter I can identify my failings and successes, and hope that someone (myself included) can learn from them.

Personal Development Exercise

A) One of the three topics I did not master right away which haunted me later on in the course was the unit circle. Another one was understanding the trigonometric identities because trigonometric identities never leave. It builds up on the lesson and it's important to know the identities right off the top of your head. This is especially important for verifying trig identities. Lastly, visualizing models. This doesn't seem like a big problem but it is. Your entire problem will be wrong from a tiny error in your model.

B)

1) Re-read the greensheet until you understand every single policy.

This is important because the greensheet explains the class in depth. You must understand it in order to maximize your points in the class. There are a lot of things in the greensheet that the professor expects you to know without directly telling you.

2) It doesn't hurt to redo the same homework over and over.

This is important because the time you have to take a quiz or test is very limited, therefore you must practice speed. By redoing your homework over and over, you also decrease the time it takes to solve a problem.

3) I also recommend using a calculator you're familiar with because when it comes to exams, you do not have any time to find out how to use a calculator. Also, make sure your calculator is appropriate for it could end up giving you a zero on your quiz or exam.

C) One of the mistakes I made this quarter was oversleeping on the day of the quiz. At first, this may seem like a negative impact on my success but it actually was one of the best things that happened to me for I now learned how to be a much more punctual person. This mistake definitely changed me for I now set multiple alarms. This directly correlates to the importance of coming to class on time. Class is only 50 minutes, therefore if you miss 10 minutes, you literally missed $\frac{1}{5}$ of the entire lecture already.

The second mistake I made was managing my time. When it comes to taking a heavy load of courses, it is very important to know how to manage your time effectively so that you could succeed in all classes, not just a few. The mistake I did was that I focused on the easier classes first, leaving my difficult classes last to study for. This resulted in a pile of study to catch up. Instead, I should've attacked my hard work head on instead of leaving it behind.

Personal Development Exercise

Coming to Math 42 class, I assumed myself it would be easy for me to pass this class as my home country's education system pays a lot of attention in science subjects such as Math, Physics, Biology, Chemistry and they make us learn the sections which belong to college level in high school. However, I made a mistake on that because not every sections that are covered in Math 42 was acknowledged before. The first one is the graph of sine, cosine, tangent and cotangent. Before, I only focus on studying math algebraically, which is everything must be shown as numbers companied with functions. That was why I had hard time learning how to sketch a trigonometric equation. The second section is bearing. Eventhough I got the idea of what is a bearing of a point and what is a bearing from one point to another point, I kept messing it up while I was doing homework relating to it. The last but not least is polar coordinates. As I said before, I was only acquainted with algebraic solving strategies, I did not know anything about polar coordinates nor even know it exists or not.

If you want to increase your chance of success in this class, there are several things that you would likely to consider more important than any others. Firstly, be ready to attend every single lectures (you are supposed to sit every quizzes and midterms right?). How about you be there but you cannot resist the temptation of sleep, Mr. Lo lectures will wake you up as it is interesting and focus really closely on the textbook. He always reminds you what is the main point of the sections and what mistake you can make on your way of performing a solution. Secondly, webassign is a good way to practice whatever you have learnt from the lectures. The better thing is the due dates of those assignment are always about 1 week after the lectures had been taught because they help us remember the sections and prevent us from pushing the deadline until our final, when we will not only spend a lot of time for math but also whatever class we are taking. Thirdly, if you have any trouble on a section or just a small consideration about your solutions, make sure that the first one you ask is Mr. Lo because honestly he is such a friendly and helpful teacher who give most of his passion in doing what he is doing. He also has office hours after every classes in case he wants to talk to anybody or helps anybody to understand the lectures.

The biggest mistake I have made in this class is that I do not usually come to class for lectures because of many reasons. I was panic for a while because my absent and late limit was exceeded, and I always have to study by myself to prepare for quizzes or midterms, which is such a pain at that time. The next thing that have been bothering me is that I always wait until the night before quizzes or midterms to study for them. What I have been doing is not good for both my grades if I did not have enough time to study thus misses the part that would be on the test and my health as I had to stay up late to study.

Bert Lo Math 42 class is a good way to prepare yourself for any higher level mathematics.

[a] 3 topics (specify the name, not the textbook section number) from earlier in the class that you (or someone you know in the class) did not master when they were first covered that caused you to do worse than you could have later on in the class if you had mastery of the earlier topics.

1. Unit Circle (memorization part)
2. Inverse Trigonometric Function
3. Vectors in the Plane

[b] 3 recommendations for what a student should do to increase their chances of success, and why each one is helpful.

1. Try not to be absent- A lot can be covered during the 50 minutes lecture. Missing even just one class will make it really difficult to catch up later on.
2. Focus in class- Textbook doesn't go depth into every topics, and in most cases, it doesn't explain how the formulas come from or the principles behind them, so the best way is to learn it from lecture. Also, taking detailed notes really helps when studying for tests/quizzes.
3. Extra practice besides HW- Get extra practice especially right before tests and quizzes helps refreshing what was learned in class and can be more familiar with the topic. For example, steps for proving trig identities, or plug numbers into a formula.

[c] 2 study or personal "mistakes" that you (or someone you know) made during this quarter that really hurt your (their) chances of succeeding, and why specifically each one had a negative impact.

1. I know how to convert degrees into radians and vice versa, but I didn't memorize them at first. I was more familiar to work with degrees. Therefore, it would take way too much time to convert them back and forth during tests and quizzes. Also, we'll mostly be working with radians in calculus, so it's better to master it now.
2. I wasn't focusing on the very first lesson on vector and I missed a lot of basic information. That caused me very confused on the second class on vector, the third, and so on. When it came to the last midterm, I struggled a lot when studying and it took me hours to figure things out myself. It would've been easier if I listened in class.