Important Notice:

- Course begins on online (Blackboard) on **August 20** and ends on **December 13**. This course uses course material from **Knewton Alta** and some activities from **Desmos**. But students will access everything from inside Blackboard.
- **All exams (except Knewton assignments and Desmos activities) will be proctored by an online proctoring software called "Respondus" (via a webcam on your own computer) or in person by the instructor in a campus computer lab. Details later in the syllabus.**
- **Students who are not able to use Respondus or cannot come to campus to take exams must inform the instructor in advance.**
- **Students will do homework assignments using Knewton Alta material (linked to Blackboard): Students will buy an access code to Knewton Alta (details later in the syllabus) which is linked to Blackboard.**
- **Students will also do some Desmos activities (free of charge) which is also linked to Blackboard.**
- **Students will take exams on Blackboard (MUOnline) using Respondus:**
- **There are five exams; Respondus Exam (Syl quiz & Equa editor test), three unit tests, and the comprehensive Final Exam), all on Blackboard.**
- **Exams count for 45% of the grade. The rest is Knewton and Desmos stuff.**

Course Title/Number	MTH 122 – Plane Trigonometry – Sec 106– CRN 2976 –3 credits
Semester/Year	Fall 2018
Days/Time	Online class. No face-to-face meetings
Location	On the WEB at www.marshall.edu/muonline
Instructor	Dr. Ari Aluthge (Pronounced: A-luth-gay)
Office	Smith Hall 716
Phone	(304) 696 3050
E-Mail	aluthge@marshall.edu **(include your name and "MTH 122 – Online" in the subject line)** **I Prefer to communicate on MUonline (Blackboard) with the "Course Messages Box" tool.**
Office/Hours	Office hours by appointment only. No scheduled office hours.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment.

Policy for Students with Disabilities: Marshall University is committed to equal opportunity education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disability Services (ODS) in Prichard Hall 117 (304.696.2467) to provide documentation of their disability. Following this, the ODS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experience, outside assignment, testing, and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, access the website for the Office of Disabled Student Services:
http://www.marshall.edu/disabled.

Course Description From Catalog: A study of the trigonometric functions, graphs of the trigonometric functions, identities, equations, inverse trigonometric functions, vectors, complex numbers, and applications.
PR: ACT Math 22 or equivalent or MTH127 or MTH130. *3 hours*

Course Objectives:
- To give students a solid understanding of trigonometric functions and their applications.
- To help prepare students for a course in calculus with analytic geometry. Students should also take college algebra before attempting calculus
- To help prepare students for study in areas such as physics, engineering, biology, chemistry, pharmacy, geology, medicine, and safety technology.

Course Contents: Most of the topics from chapters 7 through 10 in the textbook "Algebra & Trigonometry" by Openstax. **Students will NOT buy the book**. Instead, then can download a FREE PDF file of the book from
https://d3bxy9euw4e147.cloudfront.net/oscms-prodcms/media/documents/AlgebraAndTrigonometry-OP.pdf
Students will have access to the same material (as the textbook and including videos) from Blackboard.
Topics to be covered (Chapters 7 through 10 in the book)
- Right Triangular Ratios
- Trigonometric/Circular Functions
- Graphs of Trigonometric/Circular Functions
- Trigonometric Identities
- Inverse Trigonometric/Circular Functions and Trigonometric Equations
- Applications (Law of Sines, Law of Cosines, Vectors)
- Complex Numbers and Polar Coordinates (and polar graphs).

Learner Outcomes: The table below shows the following relationships: How each student learning outcomes will be practiced and assessed in the course. Upon completion of this course, students will have an understanding of the concepts of trigonometric functions and their properties. They will be able to apply these concepts to solve real world applications. In particular,

Course Student Learning Outcomes	How students will practice each outcome in this Course	How achievement of each outcome will be assessed in this Course
Students will analyze, compare, evaluate, and graph the six trigonometric functions.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will analyze, compare, evaluate, and graph the six inverse trigonometric functions.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will use trigonometric functions to solve real-world applications involving triangles and vectors.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will use the definition of radian measure to solve application problems involving linear and angular speed	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will apply trigonometric identities and solve trigonometric equations in other mathematics courses such as calculus.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will apply trigonometric functions to multiply and divide complex numbers and find the powers and roots of complex numbers.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.
Students will apply trigonometry to find polar coordinates and graph polar equations.	By studying Knewton Alta material (lectures including videos). Doing Desmos activities.	Weekly Knewton assignments and Desmos activities. Unit tests & Final Ex.

Required Texts, Additional Reading, and Other Materials:

- **Students will NOT buy a textbook.** Instead, they can download a PDF of the textbook from https://d3bxy9euw4e147.cloudfront.net/oscms-prodcms/media/documents/AlgebraAndTrigonometry-OP.pdf . The same textbook material is available on Blackboard through Knewton assignments.
- **Students will buy an access code to Knewton Alta**. You can buy it **directly from the publisher Kmewton Alta**. Log onto this course on blackboard. Click on **Unit 1 Assignments** link on the left column. Click on **Week #1 (Aug 20 – 26)** link. Click on **Knewton 7.1** link. It will take you to a page where you can purchase the access code with a credit card. **It is supposed to cost you just $44. You should also be able to get a two week temporary access code till you buy the permanent code**.
- **You can also buy the access code from MU Bookstore. The Bookstore organizes books by the author (author of the book = Knewton). ISBN: 9781635450989. It costs $53.50 at the bookstore.**
- **Caution: Please do not buy a hardcopy of the textbook. All you need is the access code. Caution: Face-to-face MTH 122 classes on campus use a different textbook. Make sure to buy the correct access code. Ask for Dr. Aluthge's online section 106 online section.**
- **Desmos: Once you are on Week #1 folder, click on Desmos #1 link. It will take you to Desmos website where you will sign in (open an account). In subsequent uses, make sure to sign in using your Desmos account. That will allow you to complete any previous Desmos activity.**
- **Recommended: A graphing calculator (will be allowed during tests and homework). Cell phones or any other electronic devices will not be allowed during Exams.**
- **There is a page containing links to several online calculator guides inside the "Course Info" page.**
- **There is also a page containing some links for online resources. See the "Online Resources" link on the "Course Info" page.**

Course Requirements / Due Dates:

1. **Structure**: **Course is divided into three units as follows. Each unit is 5 weeks**
   - **Unit 1 = Knewton 7.1 - 7.8, 8.1 - 8.7 & Desmos Activities 1 – 5. This unit runs from August 20 to September 23.**
   - **Unit 2 = Knewton 8.8 – 8.10, 9.1 – 9.11 & Desmos Activities 6 - 7 This unit runs from September 24 to October 28.**
   - **Unit 3 = Knewton 10.1 – 10.14 & Desmos Activities 8 – 11. This unit runs from October 29 to December 09.**
   - **The comprehensive final exam is due by December 13.**

2. **Knewton Assignments**: **About 40% of the grade.**

- A major portion of students work will include Knewton assignments. **In total, there are 40 Knewton assignments which count for about 40% of the grade. This means, on average, three Knewton Assignments per week (in some weeks, there are four).**

- When you open a Knewton assignment, it will start with course material for that particular topic including videos. As you move through the material, it will present questions for you to answer. Once you answer a question correctly, it will provide new material and more questions. There will be a **"progress bar"** at the top of the assignment. **The assignment will end once the progress bar is full and you will receive full credit for the assignment.**

- **The amount of time you have to spend and the number of questions you have to answer correctly to complete a Knewton assignment depends on your performance.** Numbers shown in the **"semester schedule"** file are averages based on the past performances of students who have completed those assignments. If you answer every question correctly the first time, it will take you **fewer questions and less time**. **But for every question you answer incorrectly, you will have to answer about two more questions correctly and it can add about 3 to 5 extra minutes to your assignment. So students must study the material very carefully before answering questions.**

3. **Desmos Activities**: **About 13% of the grade**

- Students will do 11 Desmos activities which count for about 13% of the grade. **Desmos activities will help students explore major concepts in trigonometry.** They will be graded by the instructor manually. **Desmos activities are independent of Knewton material.** Desmos activities are self-explanatory. But there will be some instructions.

4. **Exams**: **About 45% of the grade (three unit tests and the final exam)**

- There are five exams; **Respondus Exam** (Syl Quiz & Equation Editor Exercise), **three unit tests**, and the **comprehensive final exam**. Exams will be taken using **Respondus LockDown Browser**. Students must also have a **webcam**. **Respondus Exam is a way for students to become acquainted with the test taking process with Respondus.** It has **6 questions from the syllabus**. Respondus exam also contains **5 questions where students will be asked to type certain expressions and equations using the equation editor.**

5. **Contributing to the discussion board and sending internal messages**: **2%**

- Students will also **contribute to a discussion board** and **send messages to the instructor & class** from the "course message box" on Blackboard.

The Grading Policy:
- **40 Knewton assignments: 398 points (each varies from 6 to 10 pts)**
- **11 Desmos activities: 130 points (each is either 10 or 15 pts)**
- **3 Unit exams: 300 points (100 points each)**
- **Comprehensive Final Exam: 150 points.**
- **Respondus Exam: 16 points**
- **Discussion board and internal messages: 20 points**
- **Total Possible Points = 1014 points**

Letter Grades: **A = 900 – 1014**, **B = 800 – 899.99**, **C = 700 – 999.99**,
D = 600 – 699.99 & **F = 0 – 599.99**

Some Helpful Hints:
- The course is divided into **three units** and each unit is **five weeks.**
  - Students must follow the schedule for each week. There are about 4 to 5 assignments and activities for each week.
  - **I suggest students spending at least one hour a day working on the course material.**
  - **For each topic there is a Knewton assignment. When they open the assignment, they will be presented the relevant material (like in a classroom setting including videos) and then asked to answer a number of questions.**
  - **At the end of each unit, there is a unit test and at the end of the semester, there will be a comprehensive final exam.**
- **Getting Help From The Instructor**:
  - If you need help, please do not hesitate to contact me.
  - It is my job to help my students. But you have to ask for help.
  - Contact me through "Internal Mail Box", or at aluthge@marshall.edu or (304) 696 3050. My office is Smith 716.

Attendance Policy: There's NO attendance requirement for this class. This is a 100% online class. Students will learn material on their own. But if students have any questions, they must contact the instructor for help.

Technical Requirements:
Please click on the "Student Services" tab at the top of the MUonline homepage for all the information related to technical requirements and other student services.
Marshall University Computer HELP DESK PHONE NUMBERS:
(304) 696-3200 (Huntington, WV), (304) 746-1969 (Charleston, WV), (877) 689-8638 (Toll free)

Using LockDown Browser and a webcam (Respondus Monitor) for Online Exams:

- This course requires the use of **LockDown Browser** for taking online exams.
- Your computer must also have a **built-in or external webcam.**
- The LockDown Browser software prevents a user from accessing other applications or going to other websites during an exam.
- The **webcam (referred to as Respondus Monitor)** records you during the exam to ensure you're only using resources that are permitted.
- **Together, these tools make it possible for students to take online exams from any location, and at times that are convenient.**
- **It also creates a fair testing environment for everyone in the course.**
- **Watch the following video for more information:** Overview for Students (video)
- You will need to **download and install** LockDown Browser to your computer and use it to take tests (instead of using your normal browser.) The download URL is: http://www.respondus.com/lockdown/download.php?id=323615594 **See the video under "Additional Resources" below for instructions for downloading**.
- **<u>Caution</u>: Don't download a copy of LockDown Browser from elsewhere on the Internet; those versions won't work for Marshall University.**
- **Review this list before taking an exam with LockDown Browser and Respondus Monitor:**
  - Ensure you are in a location where you won't be interrupted
  - Turn off all mobile devices, phones, etc.
  - Clear your desk of all external materials – books, papers, other computers, or devices
  - No one else should be in the room with you
  - Remain at your desk or workstation for the duration of the test
  - Start LockDown Browser. Select the **first option** "Blackboard Learn Production" from the dropdown menu. It will take you to Blackboard (MUonline) page. Log onto MUonline. Then select this course and the Exam you are taking. Click "BEGIN". Then select the **first option** (**Taking the exam using a webcam**). Then follow the instructions. **The second option is if you are taking the exam in a lab.**
  - If an **interruption occurs** during the exam, explain what happened by speaking directly to your webcam
  - You **cannot exit the exam** until all questions are completed and submitted for grading.
  - **Respondus Exam (Syllabus Quiz & Equation editor exercise):**
    Please take the "MTH 122 Respondus Exam (syllabus quiz)" to become familiar with test taking process before taking Exam 1. It contains 6 questions from the syllabus 5 questions to use the equation editor. **Do this by September 09.**

- **Additional Resources:**
  - (pdf) Student Quick Start Guides

(video) How to Download & Use LockDown Browser

2018 Fall Semester Schedule – MTH 122

Unit	Week	Assignment	Open at 12 AM	Due by 11:59 PM	Avg. questions/slides	Average time	Point value
U N I T 1	Week #1	Desmos 1	August 20	August 26	12 slides	40 minutes	10 points
		Knewton 7.1	August 20	August 26	25 questions	33 minutes	10 points
		Knewton 7.2	August 20	August 26	25 questions	33 minutes	10 points
		Knewton 7.3	August 20	August 26	25 questions	33 minutes	10 points
		Use Course Message Box to contact instructor	August 20	August 26	N/A	10 minutes	5 points
	Week #2	Desmos 2	August 20	September 02	1 slide	20 minutes	10 points
		Knewton 7.4	August 20	September 02	17 questions	24 minutes	8 points
		Knewton 7.5	August 20	September 02	17 questions	24 minutes	8 points
		Knewton 7.6	August 20	September 02	33 questions	41 minutes	12 points
		Post an introductory message on the forum	August 20	September 02	N/A	10 Minutes	5 points
	Week #3	Desmos 3	August 25	September 09	14 slides	30 minutes	10 points
		Knewton 7.7	August 25	September 09	25 questions	33 minutes	10 points
		Knewton 7.8	August 25	September 09	33 questions	41 minutes	12 points
		Knewton 8.1	August 25	September 09	17 questions	24 minutes	8 points
		Respondus Exam (Syl Quiz & Equat Editor)	August 20	September 09	11 questions	40 minutes	16 points
	Week #4	Knewton 8.2	August 25	September 16	17 questions	24 minutes	8 points
		Knewton 8.3	August 25	September 16	25 questions	33 minutes	10 points
		Desmos 4	August 25	September 16	14 slides	50 minutes	15 points
		Knewton 8.4	August 25	September 16	17 questions	24 minutes	8 points
		Knewton 8.5	August 25	September 16	17 questions	24 minutes	8 points
	Week #5	Knewton 8.6	September 01	September 23	17 questions	24 minutes	8 points
		Knewton 8.7	September 01	September 23	33 questions	41 minutes	12 points
		Desmos 5	September 01	September 23	7 slides	60 minutes	15 points
		Unit 1 Exam	September 01	September 23	20 questions	100 minutes	100 points
U N I T 2		Post an additional message on the forum	September 01	September 30	N/A	10 minutes	5 points
	Week #6	Knewton 8.8	September 08	September 30	25 questions	33 minutes	10 points
		Knewton 8.9	September 08	September 30	17 questions	24 minutes	8 points
		Knewton 8.10	September 08	September 30	17 questions	24 minutes	8 points
		Desmos 6	September 08	September 30	13 slides	30 minutes	10 points
	Week #7	Knewton 9.1	September 15	October 07	17 questions	24 minutes	8 points
		Knewton 9.2	September 15	October 07	17 questions	24 minutes	8 points
		Knewton 9.3	September 15	October 07	17 questions	24 minutes	8 points
	Week #8	Knewton 9.4	September 15	October 14	33 questions	41 minutes	12 points
		Knewton 9.5	September 15	October 14	17 questions	24 minutes	8 points
		Knewton 9.6	September 15	October 14	17 questions	24 minutes	8 points
	Week #9	Knewton 9.7	September 22	October 21	17 questions	24 minutes	8 points
		Knewton 9.8	September 22	October 21	17 questions	24 minutes	8 points
		Knewton 9.9	September 22	October 21	25 questions	33 minutes	10 points
		Desmos 7	September 22	October 21	12 slides	40 minutes	10 points
	Week #10	Knewton 9.10	September 29	October 28	25 questions	33 minutes	10 points
		Knewton 9.11	September 29	October 28	25 questions	33 minutes	10 points
		Unit 2 Exam	September 29	October 28	20 questions	100 minutes	100 points
U N I T 3		Post additional message on the forum	October 06	November 04	N/A	10 minutes	5 points
	Week #11	Knewton 10.1	October 06	November 04	25 questions	33 minutes	10 points
		Desmos 8	October 06	November 04	3 slides	25 minutes	10 points
		Knewton 10.2	October 06	November 04	25 questions	33 minutes	10 points
		Desmos 9	October 06	November 04	11 slides	30 minutes	10 points
		Knewton 10.3	October 06	November 04	17 questions	24 minutes	8 points
	Week #12	Knewton 10.4	October 13	November 11	25 questions	33 minutes	10 points
		Knewton 10.5	October 13	November 11	17 questions	24 minutes	8 points
		Knewton 10.6	October 13	November 11	25 questions	33 minutes	10 points
	Week #13	Desmos 10	October 20	November 18	23 slides	60 minutes	15 points
		Knewton 10.7	October 20	November 18	33 questions	41 minutes	12 points
		Knewton 10.8	October 20	November 18	17 questions	24 minutes	8 points
		Knewton 10.9	October 20	November 18	17 questions	24 minutes	8 points
	Week #14	Knewton 10.10	October 27	December 02	17 questions	24 minutes	8 points
		Knewton 10.11	October 27	December 02	17 questions	24 minutes	8 points
		Knewton 10.12	October 27	December 02	25 questions	33 minutes	10 points
	Week #15	Knewton 10.13	October 27	December 09	33 questions	41 minutes	12 points
		Knewton 10.14	October 27	December 09	25 questions	33 minutes	10 points
		Desmos 11	October 27	December 09	8 slides	30 minutes	15 points
		Unit 3 Exam	October 27	December 09	20 questions	100 minutes	100 points
	Week #16	Comprehensive Final Exam	October 27	December 13	25 questions	120 minutes	150 points
Total amount of work required to successfully complete the course						Less than 50 hrs	1014 points

Your Grade: A = 900 to 1014, B = 800 to 899.9, C = 700 to 799.9, D = 600 to 699.9, F = 0 to 599.9

Campus Computer Lab Schedule For Exams:

If a student wants to take a test in a campus lab, he/she can do by coming to a campus computer lab.. See below for the schedule. Please come early so that you will have enough time to finish the exam. Bring your ID and calculator. You can also bring any printed material from the textbook or review lessons. But you will not be able to access the textbook onlne during the exam. Most students take exams at home.

Exam	Lab	Date	Time
Exam 1	Smith Hall 624	**Friday, September 21**	1 PM – 4 PM
Exam 2	Smith Hall 624	**Friday, October 26**	1 PM – 4 PM
Exam 3	Smith Hall 624	Friday, December 07	1 PM – 4 PM
Final Exam	Smith Hall 624	**Wednesday, December 12**	1 PM – 4 PM

If coming to campus is not an option, please contact me in advance.