Important Notice:

- Course begins on online (Blackboard and MyMathLab) on **August 22** and ends on **December 15.**
- All exams (except Pre-Exams) will be proctored by a third party online proctoring company 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. **Homework counts for 40% of the grade.**
- Another option for students is to arrange (at their own cost) to take the exams at a place like a "Sylvan Center" in their area. Must obtain the instructor's permission for this.
- Students will do homework on MyMathLab. Students will buy a special version of the textbook (details below) that comes with an access code to MyMathLab (use the course code: `aluthge63945`).
- Students will take exams on Blackboard (MUOnline).
- There are six exams (three pre-exams and three (real) exams), all on Blackboard. **Exams count for 60% of the grade.**

Course Title/Number	MTH 140 – Applied Calculus – Sec 105– CRN 3034 – (3 credits)
Semester/Year	Fall 2016
Days/Time	Online class. No face-to-face meetings
Location	On the WEB at www.marshall.edu/muonline & www.mymathlab.com
Instructor	Dr. Ari Aluthge (Pronounced: A-luth-gay)
Office	Smith Hall 714
Phone	(304) 696 3050
E-Mail	aluthge@marshall.edu (your name and "MTH 140 – Online" in the subject line) Prefer to communicate on MUOnline (Blackboard) with the "Internal Mail" 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

Course Description From Catalog: A brief survey of calculus including both differentiation and integration with applications. Not to be substituted for Mathematics 229. PR: ACT Math 24 or MTH127 or MTH130. *3 hours*

Course Objectives:
- This course is intended for certain science and technology majors who wish to learn the rudiments of calculus.
- Theory is minimized and applications are emphasized.

Course Contents: Most of Chapters R through 4 and Sections 5.6 -5.7 & 6.1- 6.2
- **Review of Algebra**
- **Limits and Differentiation**
- **Applications of differentiation**
- **Exponential and logarithmic functions**
- **Integration and applications**
- **Area and volume, and differential equations**
- **Functions of several variables (Partial Derivatives)**

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 employ quantitative and analytical methods to solve problems drawn from basic algebra and geometry.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams.
Students will verbally explain the meaning of limits, derivatives, and integrals in their own words and in the context of specific problems.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams.

Students will evaluate limits, derivatives, and integrals of algebraic, exponential, and logarithmic functions numerically, graphically, and symbolically.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams, and the comprehensive final exam.
Students will apply the techniques of calculus to answer questions about the analytic geometry of functions, including tangent lines, local extrema, and absolute extrema.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams.
Students will interpret symbolic and numerical results in real-world terms, and analyze the validity of their results in a real-world setting.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams.
Students will apply techniques of calculus to solve applied problems from fields such as engineering and the sciences.	By reading and studying the textbook, lecture notes, PowerPoints presentations, watching and studying the Video clips available on MUOnline.	Weekly homework assignments, unit exams.

Required Texts, Additional Reading, and Other Materials:
- A special three-hole- punched, loose-leaf version of the textbook, *Calculus and Its Applications, 11th Edition* (by Bittinger) that comes with an access code to MyMathLab® at www.mymathlab.com or (http://www.pearsonmylabandmastering.com/northamerica/).
- **ISBN:** 9780133862386. More details about MyMathLab® later in the syllabus.
- The book can be ordered online at The Marshall University Bookstore or directly from Pearson publishing at www.pearsonhighered.com. (At MU Bookstore, the book costs about $179 and it costs about $164 from the publisher according to respective websites).

- Students will use the course code: `aluthge63945` and register on MML to do their homework.
- Caution: Please do not buy used books or any other version of the book without MML access code. The MML access code alone can cost over $100.
- Caution: Face-to-face MTH 140 classes on campus use a different textbook. Make sure to buy the correct textbook (with MML access code).
- **Note:** Also, notice that the course on MyMathLab is based on the old (10th) edition and you are buying the new (11th) edition of the book. But it should not be a problem. Your access code should work for this course
- Recommended: A graphing calculator (will be allowed during tests and homework). Cell phones or any other electronic devices will not be allowed in place of a calculator.
- There is a page containing links to several online guides (on calculators). See the "Online Calculator guides" icon on the home page of the course.
- There is also a page containing some links for online resources. See the "Online Resources" link on the home page of the course.

Course Requirements / Due Dates:

1. Course is divided into three units as follows. Each unit is 5 weeks long.
   - Unit 1 = Chapters R and 1.
     This unit runs from August 22 to September 25.
   - Unit 2 = Chapters 2 and 3. Skip section 3.6.
     This unit runs from September 26 to October 30.
     Unit 3 = Chapters 4, 5, and 6. Skip sec 4.6-4.7, 5.1-5.5, 6.3–6.6.
     This unit runs from October 31 to December 15.
   - There's no comprehensive final exam in this class.
2. There is a homework assignment on MyMathLab at the end of each section of the textbook.
   So, in total there are 35 HWs. This means, on average, students must complete three HWs per week.
   The homework deadlines are posted online in the "Semester Schedule" on the homepage of the course.

There's an Orientation HW on MML to help student learn how to enter answers including graphs. Counts for grade.

Different HWs have different values ranging from 5 points to 6.5 points. Most HWs are NOT multiple-choice. On MML, homework grades will range from 50 to 65 points. But they will be divided by 10 before entering on Blackboard. Each HW will have some "media items" such as "video clips" and "PowerPoints". Students must first view those media items before they can answer the real questions. Students will earn points for Media Items.

3. There is a Practice Exam (syllabus quiz) which contains 10 non-math questions about the course. So students must read the syllabus before taking the Practice Exam. Actually, the primary goal of the Practice Exam is to help students become familiar with the test taking process using Respondus and a webcam at home. So the practice exam should be taken on your own computer using Respondus and a webcam.

4. All exams are found in the "Quizzes and Exams" folder on the left column of the homepage of the course.

5. At the end of each unit, there are two exams. They are called Pre-Exam 1 and (real) Exam 1 (after Unit 1), etc.
   For each unit, the Pre-Exam and the (real) Exam are similar (made from the same pool of questions).
   The purpose of the Pre-Exam is to help students prepare for the (real) Exam. They both count for the grade.
   Both Pre-Exam and the (real) Exam ARE multiple-choice. Each contains 21 questions from that unit.

6. Students will take each Pre-Exam on their own computer, directly on Blackboard, without going through Respondus (no proctoring here). After taking each Pre-Exam, students can print a copy of the exam and study (correct their mistakes) to prepare for the (real) Exam.

7. To print any Pre-Exam (after the student has taken and "submitted" it), go to "My Grades", click on the particular Pre-Exam, and then click on

the grade (score) for that exam. It will open the Pre-Exam student took.

8. But students must go through Respondus Lockdown Browser to take each (real) Exam.

- At home, students can download Respondus Lockdown Browser. Students will also need a webcam. Details are given in a separate file on the home page under the title "Taking Exams at Home (Proctored)"
- But students can also come to campus and take each (real) Exam in a computer lab where the instructor will proctor the exam. One three-hour period will be available for each exam. Details are given in a separate file on the homepage under the title "Taking Exams on Campus (Proctored)".
- Another option for students is to arrange (at their own cost) to take the exams at a place like a "Sylvan Center" in their area. Must obtain the instructor's permission for this.
- Deadlines for Pre-Exams and (real) Exams are given in the "Semester Schedule" file.

9. There will be NO comprehensive final exam. Exam 3 is the last exam of the class. **Class ends December 15**.

Grading Policy:

1. Homework assignments (including Orientation HW) are worth 205 points.
   On MML, HW scores will range from 50 to 65 points. But those scores will be divided by 10 before copying to Blackboard. So on Blackboard, HW grades will range from 5 to 6.5 points. Orientation HW = 1.3 points.

2. For each unit, Pre-Exam = 21 points (1 pt for each question) and (real) Exam = 84 points (4 pts for each question). Total for two exams for each unit = 105 points. Total for all exams for three units = 315 points.

3. The Practice Exam (Syllabus quiz) = 5 points (0.5 point/question).
4. Total possible points = 525 (205 + 5 + 315)
5. Letter grades: A = 450 – 525,   B = 400 – 449,   C = 350 – 399,   D = 300 – 349,   F = 0 – 299
6. Students must concentrate on the points total, not the percentage.

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:
For minimum hardware/software requirements please see:
http://www.marshall.edu/muonline/computer_requirements.asp

Be sure to run the free web browser tune-up:
http://www.marshall.edu/muonline/hardwaresoftwarecheck.asp

You will need to have several plug-ins (software) installed on your computer. These plug-ins are all free. You will need **Real Player** and **Flash Player** to experience the streaming video and audio clips that are part of the course. You can easily check your computer to see if you have these programs (and if you don't install them for free), by clicking on this link:
http://www.marshall.edu/muonline/computer_requirements.asp

If you have technical problems, please go to the Help Desk:
http://www.marshall.edu/ucs/cs/helpdesk/

FAQ – Frequently Asked Questions
http://www.marshall.edu/muonline/technicalfaq.asp
Students will need a webcam for their computer if they decide to take the tests on their own computer. (But they can come to campus and take the test on a campus computer in a computer lab).
Students will need to download Respondus Lockdown Browser.

Marshall University Computer HELP DESK PHONE NUMBERS:
(304) 696-3200 (Huntington, WV), (304) 746-1969 (Charleston, WV),
(877) 689-8638 (Toll free)

<u>Some Helpful Hints:</u>

- **For each section, I have included the following in separate files in this order:**
    - Detailed lecture notes with hundreds of worked out problems.
    - A PowerPoint presentation.
    - A page containing a video link or playlist (for most sections) (If you have difficulty with videos, please contact me)
    - Solutions to exercise problems #3, 7, 11, etc.
  - PowerPoint presentations and videos are also available on MyMathLab and students are required to view these media as a part of their homework.

- **<u>I suggest the following approach</u>:**
  - Read the syllabus and take the syllabus quiz on Blackboard (counts for the grade)
  - The course is divided in to three units. Each unit consists of several chapters.
  - Begin reading the text for each section of the textbook.
  - Next read my lecture notes including worked out examples.
  - Then view the PowerPoint presentation.
  - Next go and view the video (if there is a video for that section)
  - Do the HW on MML (http://www.pearsonmylabandmastering.com/northamerica/. Course code: **aluthge63945**
  - If you need to study more, check the online resources page from the home page.
  - Take the "MTH 140 Practice Exam (Syl Quiz)" by September 18 to become familiar with test taking process before taking Pre-Exam 1
  - At the end of each unit, take the unit exam on Blackboard (proctored by via a webcam). But students can also take the exam by coming to a campus computer lab. Details below.
  - There's NO comprehensive final exam for this class. Exam 3 is the last exam. **Class ends December 15.**

- **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, if you need help.
  - Contact me through "Internal Mail", or at aluthge@marshall.edu or (304) 696 3050.

<p align="center">MyMathLab Instructions</p>

To register for Fall 2016 - MTH 140 - Section 105 (Aluthge) on :

1. Go to www.pearsonmylabandmastering.com
2. Under Register, click **Student**.
3. Enter your instructor's course ID: `aluthge63945`, and click **Continue**.

   Please understand that there are so many math courses registered under my name "Aluthge" on MyMathLab. So be careful and make sure to enter the correct course code `aluthge63945` and register for the correct course.

4. Sign in with an existing Pearson account or create an account:
   - If you have used a Pearson website (for example, MyMathLab, or MyPsychLab), enter your Pearson username and password. Click **Sign in**.
   - If you do not have a Pearson account, click **Create**. Write down your new Pearson username and password to help you remember them.

5. Select an option to access your instructor's online course:
   - Use the access code that came with your textbook or that you purchased separately from the bookstore.
   - If not, buy access using a credit card or PayPal. Actually, just the MML access code may be sufficient. Once you are on MML, you have access to Textbook pages, Videos, and PowerPoints. You are supposed to view those media as a part of each homework. Those things and detailed lecture notes are provided on MUonline also.
   - If available, get 14 days of temporary access (Look for a link near the bottom of the page).

6. Click **Go To Your Course** on the Confirmation page. Under MyLab & Mastering New Design on the left, click **Fall 2016 - MTH 140 - Section 105 (Aluthge)** to start your work.

Retaking or continuing a course?

If you are retaking this course or enrolling in another course with the same book, be sure to use your existing Pearson username and password. You will not need to pay again.

To sign in later:

1. Go to www.pearsonmylabandmastering.com
2. Click **Sign in**.
3. Enter your Pearson account username and password. Click **Sign in**.
4. Under MyLab & Mastering New Design on the left, click
   Fall 2016 - MTH 140 - Section 105 (Aluthge) to start your work.

5. **Do the Orientation HW**: Please do this <u>first</u> to learn how to enter your answers including graphs.

Additional Information:

See **Students** > **Get Started** on the website for detailed instructions on registering with an access code, credit card, PayPal, or temporary access.

Notes:

- Students will have unlimited time and unlimited number of attempts on each HW (as long as they finish the HW by the deadline and before it is closed).
- This semester, I am leaving HW open for the entire four-week period for each unit. The penalty below will apply only during the last week of each unit. See the "semester schedule" for more details.
- During the penalty period, the point value students can earn will decrease by 3% per day. This applies only for the questions student attempt after the original due date.

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

- This course requires the use of LockDown Browser for taking online exams.
- The computer used for taking exams 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 (sometimes called 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/installinfo.pl?ID=323615594 See the video under "Additional Resources" below for instructions for downloading.
- **Caution: 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, briefly explain what happened by speaking directly to your webcam
  - You cannot exit the exam until all questions are completed and submitted for grading.

- ▪ **Practice Exam (Syllabus Quiz):**
  Please take the "MTH 140 Practice Exam (syllabus quiz)" by September 18 to become familiar with test taking process. It contains 10 questions about the course from the syllabus.

- • **Additional Resources:**
  - ▪ (pdf) Student Quick Start Guides
  - ▪ (video) How to Download & Use LockDown Browser

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 for each exam. Since the exam is 2.5 hours long, please come early so that you will have enough time to finish the exam. Bring your ID, textbook, and calculator. Please let me know in advance if you want to take the exam in a lab in any of these days. Most students take exams at home.

Exam	Lab	Date	Time
(real) Exam 1	Smith Hall 624	Friday, September 23	1 PM – 4 PM
(real) Exam 2	Smith Hall 624	Friday, October 28	1 PM – 4 PM
(real) Exam 3	Smith Hall 624	Wednesday, December 14	1 PM – 4 PM

Notes:
- • Pre-Exams are taken at home without Respondus, directly on Blackboard, no proctoring involved.
- • There's no comprehensive final exam for this class.
- • **Exam 3 is the last exam for this class.**

Note: Another option for students is to arrange (at their own cost) to take the exams at a place like a "Sylvan Center" in their area. Students must obtain the instructor's permission for this. In this event, the instructor will contact the proctoring center and mail the paper exams to be proctored there.

2016 Fall Semester Schedule – MTH 140   (for Homework on MyMathLab and Exams on Blackboard)

Homework or Exam	Open at 12:00 AM on		Due: by 11:59 PM on — Earn 100% of possible points on HW	Close (late due HW) at 11:59 PM on — HW: 3% a day penalty during this period.
Orientation HW	Saturday, August 20 , 2016		Sunday, September 4, 2016	Sunday, September 11, 2016
Practice Exam & Syllabus quiz	Take the MTH 140 Practice Exam to become familiar with test taking using Respondus by January 24, 11:59 PM. It contains 10 non-math questions related to the course from the syllabus. Counts for grade (5 points). **Do this at home.**			
Unit 1 (Chapters R & 1) work starts here.				
HW R.1	Saturday, August 20 , 2016		Sunday, September 4, 2016	Sunday, September 11, 2016
HW R.2	Saturday, August 20 , 2016		Sunday, September 4, 2016	Sunday, September 11, 2016
HW R.3	Saturday, August 20 , 2016		Sunday, September 4, 2016	Sunday, September 11, 2016
HW R.4	Saturday, August 20 , 2016		Sunday, September 4, 2016	Sunday, September 11, 2016
HW R.5	Saturday, August 27, 2016		Sunday, September 11, 2016	Sunday, September 18, 2016
HW R.6	Saturday, August 27, 2016		Sunday, September 11, 2016	Sunday, September 18, 2016
HW 1.1	Saturday, August 27, 2016		Sunday, September 11, 2016	Sunday, September 18, 2016
HW 1.2	Saturday, August 27, 2016		Sunday, September 11, 2016	Sunday, September 18, 2016
HW 1.3	Saturday, August 27, 2016		Sunday, September 11, 2016	Sunday, September 18, 2016
HW 1.4	Saturday, September 3, 2016		Sunday, September 18, 2016	Sunday, September 25, 2016
HW 1.5	Saturday, September 3, 2016		Sunday, September 18, 2016	Sunday, September 25, 2016
HW 1.6	Saturday, September 3, 2016		Sunday, September 18, 2016	Sunday, September 25, 2016
HW 1.7	Saturday, September 3, 2016		Sunday, September 18, 2016	Sunday, September 25, 2016
HW 1.8	Saturday, September 3, 2016		Sunday, September 18, 2016	Sunday, September 25, 2016
Pre-Exam 1	Opens, Sep 3	Closes Sep 21	Take at home directly on Blackboard by Sep 21. Good practice for (real) Exam 1. 21 points.	
(real) Exam 1	Opens, Sep 3	Closes Sep 25	Take via Respondus at home by Sep 25 or come to Smith 624 on Sep 23 , 1 – 4 PM. 84 points	
Unit 1 work ends here. And Unit 2 (Chapters 2 & 3) starts here.				
HW 2.1	Saturday, September 10, 2016		Sunday, October 2, 2016	Sunday, October 9, 2016
HW 2.2	Saturday, September 10, 2016		Sunday, October 2, 2016	Sunday, October 9, 2016
HW 2.3	Saturday, September 10, 2016		Sunday, October 2, 2016	Sunday, October 9, 2016
HW 2.4	Saturday, September 17, 2016		Sunday, October 9, 2016	Sunday, October 16, 2016
HW 2.5	Saturday, September 17, 2016		Sunday, October 9, 2016	Sunday, October 16, 2016
HW 2.6	Saturday, September 17, 2016		Sunday, October 9, 2016	Sunday, October 16, 2016
HW 2.7	Saturday, September 24, 2016		Sunday, October 16, 2016	Sunday, October 23, 2016
HW 3.1	Saturday, September 24, 2016		Sunday, October 16, 2016	Sunday, October 23, 2016
HW 3.2	Saturday, September 24, 2016		Sunday, October 16, 2016	Sunday, October 23, 2016
HW 3.3	Saturday, October 1, 2016		Sunday, October 23, 2016	Sunday, October 30, 2016
HW 3.4	Saturday, October 1, 2016		Sunday, October 23, 2016	Sunday, October 30, 2016
HW 3.5	Saturday, October 1, 2016		Sunday, October 23, 2016	Sunday, October 30, 2016
Pre-Exam 2	Opens Oct 1	Closes Oct 26	Take at home directly on Blackboard by Oct 26. Good practice for (real) Exam 2. 21 points.	
(real) Exam 2	Opens Oct 1	Closes Oct 30	Take via Respondus at home by Oct 30 or come to Smith 624 on Oct 28, 1 – 4 PM. 84 points	
Unit 2 work ends here. And Unit 3 (Cha 4, Sec 5.6, 5.7, 6.1 & 6.2)) starts here.				
HW 4.1	Saturday, October 8, 2016		Sunday, November 06	Sunday, November 13
HW 4.2	Saturday, October 8, 2016		Sunday, November 06	Sunday, November 13
HW 4.3	Saturday, October 8, 2016		Sunday, November 06	Sunday, November 13
HW 4.4	Saturday, October 15, 2016		Sunday, November 13	Sunday, November 20
HW 4.5	Saturday, October 15, 2016		Sunday, November 13	Sunday, November 20
HW 5.6	Saturday, October 22, 2016		Sunday, November 27	Sunday, December 4
HW 5.7	Saturday, October 22, 2016		Sunday, November 27	Sunday, December 4
HW 6.1	Saturday, October 29, 2016		Sunday, December 4	Sunday, December 11
HW 6.2	Saturday, October 29, 2016		Sunday, December 4	Sunday, December 11
Pre-Exam 3	Opens Oct 29	Closes Dec 11	Take at home directly on Blackboard by Dec 11. Good practice for (real) Exam 3. 21 points.	
(real) Exam 3	Opens Oct 29	Closes Dec 15	Take via Respondus at home by Dec 15 or come to Smith 624 on Dec 14, 1 – 4 PM. 84 points	
Final Exam?	NO comprehensive final exam here. Exam 3 is the LAST exam. Semester ends on December 15.			
Please print and post this schedule near your desk or download it to your smart phone or tablet or laptop or desktop.				