# SYLLABUS

*Spring 2018*

## Math 2024-P05, CRN: 24695, Calculus with Analytic Geometry II

| Department of | Mathematics | College of | Arts and Sciences |
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|---|---|
| **Instructor Name:** | Dr. Tracy Robin |
| **Office Location:** | 301B-W.R. Banks |
| **Office Phone:** | (936)-261-1971 |
| **Fax:** | (936)-261-2088 |
| **Email Address:** | tjrobin@pvamu.edu |

| **Snail Mail (U.S. Postal Service) Address:** | Prairie View A&M University | |
|---|---|---|
| | P.O. Box | 519 |
| | Mail Stop | 2225 |
| | Prairie View, TX 77446 | |

| **Office Hours:** | MW 8:00-9:00,–10:30-11:30, 4:00-5:00<br>TR: 9:30-10:30<br>F: 10:30 – 11:30 and by appointment |
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| **Virtual Office Hours:** | **By email** |
| **Course Location:** | Woolfolk 110 |
| **Class Meeting Days & Times:** | MWF 12:00 – 1:20 |
| **Course Abbreviation and Number:** | Math 2024 |
| **Catalog Description:** | Credit 4 semester hours.  Applications of integrals, integration techniques, inverse functions, indeterminate forms, improper integrals, parametric equations, polar coordinates, infinite series, power series, Taylor series. |
| **Prerequisites:** | Math 1124 or equivalent |
| **Required Text:** | Calculus, 11$^{th}$ edition, by Ron Larson and Bruce Edwards, Cengage Learning<br>ISBN: 978-1-337-27534-7 / ISBN: 978-1-337-27557-6<br>www.webassign.net   Class Key:  pvamu **6931 1346** |
| **Recommended Text:** | |
| **Access to Learning Resources:** | PVAMU Library:     phone: (936) 261-1500;<br>             web: http://www.tamu.edu/pvamu/library/<br>University Bookstore: phone:  (936) 261-1990;<br>             web:  https://www.bkstr.com/Home/10001-10734-1?demoKey=d |

| **Overview and Course Goals:** |
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| The goals of this course are to provide a solid foundation of different integration techniques and theory of infinite series and to show how the basic concepts of calculus can be applied to solving various applied problems |

**At the end of this course, the student will be able to**

| | | Alignment with Academic Prog. | Alignment with Core Curriculum |
|---|---|---|---|
| 1 | enhance their understanding of functions of a single variable and operations on the them; | #1, #4 | #2 |
| 2 | learn different integration techniques | #1, #4 | #2, #3 |
| 2 | apply differential and integral calculus to solving a variety of applied problems | #2, #4 | #2, #3 |
| 3 | understand the concept and applications of inverse functions | #1, #4 | |
| 4 | master their work with different types of equations, such as parametric equations and equations of curves in polar | #1 | #2, #3 |

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| | coordinates; | | | |
| 5 | analyze sequences and series and solve related applied problems; find Taylor or Maclaurin series for a function; use power series to solve mathematical and applied problems | #1, #2 | | #3, #6 |
| 6 | apply calculus to solve selected problems that arise in mathematics, science, engineering, computer science, business, and economics | #2, #3 | | #2, #3, #5 |

## Course Evaluation Methods

**Exams** – written tests designed to measure knowledge of presented course material
**Exercises** – written assignments designed to supplement and reinforce course material
**Projects** –assignments designed to measure ability to apply presented course material
**Class Participation** – daily attendance and participation in class discussions

## Departmental policies on exams and technology

- no multiple choice question is allowed on any test at any level; students should explain and justify their solutions;
- any and all types of technology is allowed to be used by students in class and on assignments throughout the academic years;
- all tests must be taken in class and permitted makeup tests should be in the faculty's offices or in the mathematics department's office.
- for tests, including midterm and final exam, each faculty should prepare a one page formulae-sheet, consisting of complex formulae to give to the students for their use along with the test-sheet. Exemptions are the courses that formulae do not play substantial role in the test;
- all students are allowed a have calculator, up to the TI 84 level, on tests and use it;
- Cellular phones or any other device that has access to the Internet and/or is capable of taking picture are NOT allowed during tests.

## Grading Matrix

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|---|---|
| Homework | 10% |
| Test 1 | 20% |
| Midterm Exam | 20% |
| Test 2 | 20% |
| Participation and Taskstream | 5% |
| Final exam | 25% |
| Project[1]          additional | 10% |

[1]Additional points (%) will be given for extraordinary projects, solution of assigned challenging problems and bonus question hard work in class, class participation attendance of all classes, etc.

## Grade Determination:

| Percentage | Grade | Description |
|---|---|---|
| 90% - 100% | A | Excellent |
| 80% - 89.9.9% | B | Good |
| 70% - 79.9% | C | Fair |
| 60% - 69.9% | D | Poor |
| 0% - 59.9% | F | Failure |

## Course Procedures

**Submission of Assignments:**
**Formatting Documents:**
Microsoft Word is the standard word processing tool used at PVAMU.  If you're using other word processors, be sure to use Word, Rich-Text, or plain text format.

**Exam Policy**
Exams should be taken as scheduled.  No makeup examinations will be allowed except under documented emergencies (Se

**Professional Organizations and Journals**

**University Rules and Procedures**

**Disability statement (See Student Handbook):**
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made.  In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

**Academic misconduct (See Student Handbook):**
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct.  Students who engage in academic misconduct are subject to university disciplinary procedures.

**Forms of academic dishonesty:**
1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

**Nonacademic misconduct (See Student Handbook)**
The university respects the rights of instructors to teach and students to learn.  Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

**Sexual misconduct (See Student Handbook):**
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated.  Any member of the university community violating this policy will be subject to disciplinary action.

**Attendance Policy:**
Prairie View A&M University requires regular class attendance.  Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F".  Absences are accumulated beginning with the first day of class.

**Student Academic Appeals Process**
Authority and responsibility for assigning grades to students rests with the faculty.  However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

**Technical Considerations for Online and Web-Assist Courses**
**Minimum Hardware and Software Requirements:**
    -Pentium with Windows XP or PowerMac with OS 9
    -56K modem or network access
    -Internet provider with SLIP or PPP

- -8X or greater CD-ROM
- -64MB RAM
- -Hard drive with 40MB available space
- -15" monitor, 800x600, color or 16 bit
- -Sound card w/speakers
- -Microphone and recording software
- -Keyboard & mouse
- -Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins
- -Participants should have a basic proficiency of the following computer skills:
    - ·Sending and receiving email
    - ·A working knowledge of the Internet
    - ·Proficiency in Microsoft Word
    - ·Proficiency in the Acrobat PDF Reader
    - ·Basic knowledge of Windows or Mac O.S.

**Netiquette (online etiquette):**  students are expected to participate in all discussions and virtual classroom chats when directed to do so.  Students are to be respectful and courteous to others in the discussions.  Foul or abusive language will not be tolerated.   When referring to information from books, websites or articles, please use APA standards to reference sources.

**Technical Support:** Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course. The helpdesk is available 24 hours a day/7 days a week. For other technical questions regarding your online course, call Office of Distance Learning at 936-261-3290or 936-261-3282

**Communication Expectations and Standards:**
All emails or discussion postings will receive a response from the instructor within 48 hours.

You can send email anytime that is convenient to you, but I check my email messages continuously during the day throughout the work-week (Monday through Friday).  I will respond to email messages during the work-week by the close of business (5:00 pm) on the day following **_my receipt_** of them.  Emails that I receive on Friday will be responded to by the close of business on the following Monday.

**College of Arts and Sciences Student & Staff Aspiration Statement**

The faculty and staff of the College of Arts and Sciences at PVAMU are committed to providing the best possible quality education to its students. To that end, we will work hard to prepare the students for success by setting the proper academic environment and background necessary to facilitate learning.  In order for us to be successful, there are some basic expectations our students must demonstrate.  These expectations are a simple ingredient to foster camaraderie and '*esprit de corps*' in every class and classroom on campus.  Additionally, these are lifelong fundamental learning skills to better prepare students for success in America's job market.

**CAS student expectations:**
- ➢ You are expected to come to class prepared and on time.
- ➢ Higher education is an investment in your future, to that end; you must endeavor to be properly equipped for class. (i.e. School supplies, text, and other supporting materials).
- ➢ Resolution of any classroom issues (i.e. Grades, course materials, etc) should begin with the instructor.
- ➢ If you must leave early, notify the instructor before the class begins, sit by the door, and exit quietly
- ➢ Be considerate of your fellow classmates; please turn off all phones, pagers and other electronic devices.
- ➢ Do not talk to other students during lecture. If you have a question or a comment on the subject being discussed, address it to the instructor directly.
- ➢ Walk quietly through the hallways, classes in other rooms may still be in session.
- ➢ Please refrain from eating, drinking, sleeping in class, using profanity, and engaging in any form of horseplay in the classroom it is disruptive to your fellow classmates.
- ➢ Be respectful, civil, polite and considerate when dealing with your professors as well as your fellow classmates.
- ➢ Student attire is based on personal preference and taste.  The rule of thumb is simple, if it projects a statement which is offensive to others, then maturity should dictate that it is probably not a good idea to wear to class.

- ➢ Enthusiasm is infectious, a smile and positive attitude will go far to motivate and charge your professors and fellow classmates

# Math 2024 –P01 – Calculus with Analytic Geometry II

| Week | Monday    Wednesday | |
|------|---------------------|---|
| 1 | **Introduction; Review**<br>**Ch5** Logarithmic, Exponential, and Other Transcendental Functions<br>**5.1-5.5** Logarithmic and Exponential Functions | |
| 2 | **5.6-5.7** Inverse Trigonometric Functions | |
| 3 | **5.6-5.7** Inverse Trigonometric Functions<br>**5.8** Hyperbolic Functions | |
| 4 | **Ch 7** Applications of integration<br>7.1 Areas of the Region between Two Curves<br>7.2-7.3Volume   **Test 1** | **Exam I** |
| 5 | 7.2-7.3Volume<br>7.4 Arc Length, Surface of Revolution<br>7.5-7.7 Other Applications | |
| 6 | **Ch 8** Integration Techniques, L'Hospital's Rule, and Improper Integrals<br>8.1Basic Integration Rules    8.2 Integration by Parts<br>8.3 Trigonometric Integrals | |
| 7 | 8.4 Trigonometric Substitutions<br>8.4 Partial Fractions<br>8.5-8.6 Strategy for Integration | |
| 8 | **Review**<br>**Midexam – Wednesday October 20** | **Midterm** |
| 9 | 8.7 L' Hospital's Rule<br>8.8 Improper Integrals | |
| 10 | **Ch 9** Infinite Series<br>9.1-9.2 Sequences and Series | |
| 11 | 9.3-9.6 Strategy for testing series<br>9.7-9.10 Power Series; Their Types and Applications **Test 3** | |
| 12 | 9.10 Taylor and McLaurin Series<br>**Ch 10** Conics, Parametric Equations, and Polar Coordinates<br>10.1 Conics and Calculus<br>10.2-10.3 Parametric Equations | **Exam 2** |
| 13 | 10.4-10.6  Polar coordinates | |
| 14 | 10.4-10.6  Polar coordinates; Review | |
| 15 | **Review  December 5- Last day of classes**<br>**Final exam:** | **Final** |