

801 North Capitol Street, NE ⚫ Washington, DC 20002 ⚫ (202) 274-5800

Mission – *In diverse, technology enhanced learning environments, UDC-CC provides opportunities for students to obtain the requisite skills of today’s workforce and prepares them for the demands of tomorrow.  We offer accessible, affordable, and high-quality**programs to the residents of the District of Columbia and the region.  Our associate degrees, certificates, workforce development and lifelong learning programs are market-driven and learner focused.  UDC-CC serves as a vital link to the intellectual,* *economic, civic and cultural vitality* *of the region.*

**Vision -** *Serving as a benchmark for excellence, the University of the District of Columbia Community College (UDC-CC) provides opportunity for District residents to access high-quality, affordable, learner-focused and market-driven programs that* *advance their individual and the community’s economic, social and educational* *goals.*



**Precalculus I (Math 113)**

**Semester and Year: Summer** 2020 **Class Location:** 801 North Capitol 810

Course Title: Precalculus I Faculty Office: NA

Course Number and Section: Math 113 Meeting Time: MWF 5:30pm- 7:30pm

Credit Hours: 3 Prerequisite(s): Intermediate Algebra

Office Phone: n/a Office Hours: MW 4:20PM – 5:20PM

Instructor: J Dickens, PhD Email Address: jdickens@udc.edu

**RATIONALE FOR THE COURSE:**

The course is the first of a sequence of two courses designed to provide students with the necessary prerequisites for the study of calculus. This course also provides the mathematics needed for disciplines such as computer science, engineering, mathematics or any of the natural science majors that require advanced algebra and function theory as related to non-periodic functions. This course is designed to provide more experience with the use of graphing calculator.

**COURSE DESCRIPTION:**

This course is the first of a two-semester sequence covering algebraic notation and symbolism, exponents and radicals; algebraic functions; solution of linear and quadratic equations and inequalities; relations and functions; rational functions and their graph; conic sections; exponential and logarithmic functions and their graphs.

**PREREQUISITE:**

Math 105

**TOPICAL OUTLINE AND DATES**

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| --- | --- |
| **Objectives/Assessment** | **DATE** |
| Review of College Algebra |  |
| P.1 Graph Representation of Data | Week 1 |
| P.2 Graph Equations |  |
| P.3 Understand Properties of Lines in the Plane |  |
| P.4 Solve Equations Algebraically and Graphically |  |
| P.5 Solve Inequalities Algebraically and Graphically |  |
| Review of Prerequisites |  |
| Test on Chapter P |  |
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| Introduction to Functions and Their Graphs |  |
| 1.1 Determine Relations, Functions and Related Domains and Ranges | Week 2 |
| 1.2 Graph Functions Based on Properties: Increasing and Decreasing Intervals |  |
| Relative Minimum and Maximum Values |  |
| Shifts, Reflections, Contractions, and Stretches |  |
| 1.3 Identify Types of Functions and Their Graphs: Step Functions and Piecewise-Defined Functions, Even and Odd Functions, Combination of Functions, and Inverse Functions |  |
| Review of Chapters 1 |  |
| Test on Chapters 1 |  |
|  |  |
| Introduction to Polynomial and Rational Functions |  |
| 2.1 Graph and Identifying Properties of Quadratic Functions | Weeks 3 and 4 |
| 2.2 Graph and Identifying Properties of Polynomial Functions of Higher Degree |  |
| 2.3 Determine Real Zeros of Polynomial Functions |  |
| 2.4 Define and Perform Operations with Complex Numbers |  |
| 2.5 Solve Problems Using Fundamental Theorem of Algebra |  |
| 2.6 Identify Properties of Rational Functions Including Asymptotes |  |
| 2.7 Graph of Rational Functions |  |
| Review of Chapter 2 |  |
| Test on Chapter 2 |  |
|  |  |
| Introduction to Exponential and Logarithmic Functions | Weeks 5 and 6 |
| 3.1 Define and Graph Exponential Functions |  |
| 3.2 Define and Graph Logarithmic Functions |  |
| Worksheet on Exponential and Logarithmic Functions and Their Graphs |  |
| 3.3 Identify and Apply Properties of Logarithms |  |
| 3.4 Solve Exponential and Logarithmic Equations |  |
| 3.5 Apply Exponential and Logarithmic Models |  |
| Review of Chapter |  |
| Test on Chapter 3 |  |
| Final Exam |  |
|  |  |

Access to Computer and Software - To successfully participate in this course, enrollees must have access to a computer. Many of the course assignments, readings, library research, and quizzes require the use of a computer. Microsoft Word is the preferred application for writing assigned papers (doc or docx format). All major web browsers interface with Blackboard Learn® (see, “Computer-Based Work” below).

COMPUTER-BASED WORK/ BLACKBOARD LEARN® - UDC-CC embraces the use of technology. Blackboard Learn® is the learning management system that is used to deliver numerous course activities, assignments, and assessment rubrics. All students must obtain and maintain access to this course site on Blackboard. If you do not know how to log in to Blackboard or have forgotten your login password, please contact the UDC OITS department for assistance. Maurice Green (magreen@udc.edu) in the UDC-CC IT office (Room 522) or Larry Williams (larry.williams@udc.edu) in the UDC-CC Library (Room 211) will be able to help. For additional assistance, students should contact the Blackboard helpdesk (202-274-5941) or visit the ISM Help Hub at https://bit.ly/2v9qfuf for help in signing on to MY UDC or Blackboard.

Course Outcomes

1. The students will be reinforced in advanced algebra and graphing techniques and strategies
2. Students will define, graph, and identify properties of non-periodic elementary functions
3. Students will solve problems requiring the use complex numbers

**REQUIRED TEXT AND MATERIALS**

**REQUIRED TEXTS: Precalculus**

Author: Blitzer

Publisher: Addison-Wesley

Edition: 6th Edition

**SUPPLEMENTARY MATERIALS:**

**Texas Instruments Graphing Calculator: TI-84 or TI-83 (Minimum)**

## Spiral Notebook and Graph Paper

**RELATED READINGS/REFERENCES**Bittinger, Marvin, Intermediate Algebra; 11th Edition, Addison-Wesley, 2011

Online Multimedia Support for Required Text  
  
**INSTRUCTIONAL STRATEGIES**

A variety of teaching strategies are used such as: lecture-test, cooperative learning (group/team work), student participation and/or presentation in class, homework, computer- assisted learning activities, and work in the Mathpower Lab. Students may receive personal contact through email, office hours, office phone, and other means as designated by the professor.  
  
**Code of Conduct for the Classroom**

The following may lead to distractions for classmates and the professor. This may result in a request for you to be temporarily remove from class and you may miss important information from class:  
 1. Eating and drinking in class

1. Listening to headphones
2. Using cell phone during class. This includes receiving and/or text messaging.
3. Leaving and reentering the class repeatedly
4. Conducting personal conversations with classmates while the class is in session.
5. Interrupting the instructor with outburst comments
6. Derogatory comments directed at the instructor or students.
7. Minors and uninvited guests in the classroom.

**The Math Lab**

The Math Lab location for this class will be announced by your instructor. Contact your Instructor or report to the Math Lab for questions and information pertaining to Lab computer use or available online systems. Lab hours are subject to change due to holiday or various breaks during and at the end of the semester.

**Math Lab Hours:**

Monday 9 am – 9 pm

Tuesday 9 am – 9 pm

Wednesday 9 am – 9 pm

Thursday 9 am – 9 pm

Friday 9 am – 7 pm

Saturday 9 am – 4 pm

The Math Lab offers:

1. The latest technology for *online* *tutoring* and *testing*
2. Every chapter and skill in the course is on *streaming video*
3. Peer tutoring located on the 7th floor

TRAINING

During the first two or three weeks of classes, your instructor may provide you with the training or course id.

**MODEL for GRADING AND CALCULATING THE FINAL GRADE**

Homework/Classwork: 15%

Mymathlab assignments 20%

Tests 45%

final exam 20%

Online Participation and Time Commitment:

Your full engagement and participation is essential to your success in this class. As an online student your attendance will be based on your participation, frequency of accessing the Blackboard course, the amount of time you spend in the online course site, and completion of online discussions.

**Letter Grade Assignment Weights**

100 – 90 A 89 – 80 B 79 – 70 C 69 – 60 D 59 – 50 F

The Community College uses the following grades to designate levels of achievement.

A Excellent 4 quality points per semester hour of credit

B Above Average 3 quality points per semester hour of credit

C Satisfactory 2 quality points per semester hour of credit

D Below Average 1 quality point per semester hour of credit\*

F Failure 0 quality points per semester hour of credit

Students can anticipate 4 Chapter exams and a Final exam. **All assignments have to be turned in on time and Chapter exams have to be taken on the dates** **designated by the instructor.** Late assignments are only considered if there is documentation that gives evidence of a medical or family emergency.

Regular attendance is mandatory. Students who incur three or more absences (excused or unexcused) will have their final average decreased by 10 percentage points and advised to

drop the course.

*INCOMPLETE GRADE (I)*

The symbol *I* is used if the student has not completed all of the required course assignments and is passing the course at the end of the term. A student has one term (exclusive of summer) to complete the required work. If not completed by the deadline stated during the next Fall or Spring semester term, the grade will become an F.

Incomplete grades will be contracted by agreement with your professor.

*WITHDRAWAL (W)*

The symbol W designates official withdrawals. A student may officially withdraw from a course or the Community College up to five weeks prior to the beginning of the scheduled final examination period. A student who fails to withdraw in the required manner will receive the grade of F (failure). A student may totally withdraw from the University at any point up to the last day of classes during the semester enrolled. A student who withdraws from the Community College will not be considered as an enrolled student for the purpose of readmission during the semester of withdrawal. A student who does not enroll in the next consecutive semester must reapply for admission.

The deadline date for the grade of “W” is printed in the calendar for the semester. The instructor may remind students as the date approaches.

*MID-TERM PROGRESS REPORT- will be based on a Mid-term Assessment*

Your instructor will advise you before the last date to withdraw without grade penalty whether you should withdraw or continue.

**Computer-BASED Work/ BLACKBOARD**

Classroom instruction may be supported by online supplements and/or blackboard.

**E-Mail**

All students are requested to obtain an e-mail account. If you have any questions about the course or need assistance, please contact me in person or by telephone during office hours or by e-mail at any time. Also, you may submit the end-of-chapter case project assignments in class on the due date or by e-mail with a stamped due date as established by your professor. E-mail submissions should be submitted as an attachment in Microsoft Word format.

**ACADEMIC AND INSTITUTIONAL policies**

1. CLASS ATTENDANCE

**[The University expects all students to attend all scheduled sessions on a regular basis. If a student finds it necessary to be absent from class because of illness or other personal reasons, the reason for the absence should be reported to the instructor. This is for the instructor’s information only and in no way excuses the absence, nor does it relieve the student of the responsibility for assignments covered during the period of absence. Extenuating circumstances that may force a student to have an extended absence should be documented and reported to the instructor and chair of the department. The instructor will determine the amount of assistance a student will need to complete the course requirements. *-*** *(2010-2011 UDC Student Handbook – page 23)***]**

1. **Cancellation of Classes  
   Inclement Weather - Information regarding college status during inclement weather will be posted to the** [**UDC-CC homepage**](http://www.udc.edu/cc) **as well as to our** [**Facebook page**](http://www.facebook.com/pages/Washington-DC/Community-College-of-the-District-of-Columbia/130925781057)**. The college’s status will also be updated on the University of the District of Columbia’s main number, which is 202.274.5000. Be sure to also** [**sign up for DC Alerts**](https://textalert.ema.dc.gov/index.php?CCheck=1) **to get notices immediately on your mobile phone, pager or email when changes are announced.**

3. STUDENT ACADEMIC INTEGRITY

**The College endeavors to prevent accidental or intentional plagiarism on the part of its students. Such plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment.**

**It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials**. **According to the UDC Code of Conduct, plagiarism also includes:**

**a) Use or possession of unauthorized material or technology during an examination (any written or oral work submitted for evaluation and/or grade), such as tape cassettes, notes, tests, cell phones, iPods, calculators, programmed calculators, other technological aid, or computer programs not permitted for classroom use**

**b) Obtaining or furnishing assistance with or answers on assignments for which col-laboration is not specifically allowed from another person with or without that person’s knowledge**

**c) Representing as one’s own an examination taken by another person**

**d) Taking an examination in the place of another person**

**e) Obtaining unauthorized access to the electronic or paper files of another person or agency, or altering and/or destroying those files**

Students are directed to the University Student Handbook (2010-1011), “Code of Conduct,” for the range of consequences and sanctions of acts of academic misconduct.

**4. DISABILITY SERVICES AND SUPPORT**

**The Community College is committed to providing equal and integrated access for individuals with disabilities to the academic, social, cultural, and recreational programs it offers. We work with students to ensure access to every opportunity for learning and personal growth so that you may participate as fully as possible in campus life. This course complies with the Americans with Disabilities Act (ADA) in providing support to students who have an identified disability. If you are a student who is disabled as defined by the ADA Act, and require assistance or support services, please seek assistance through the OFFICE OF DISABILITY SERVICES, 801 North Capitol Street, 2nd Floor; ask for Dr. Joan Jackson; Telephone 274-6182. You may also seek assistance from the DISABILITY RESOURCE CENTER (DRC) located on the Van Ness Campus in Building 44, Room A03; Telephone: 274-6152. Only referrals from the DRC will be recognized.**

Complaints alleging that a student with a disability who is enrolled in the course has been excluded from participation or has been denied the benefits of class activities, or otherwise has been subjected to discrimination in Community College programs or activities should be referred initially to a UDC-CC Student Success Center Counselor for immediate assistance.

5. Sexual Harassment and Racial Discrimination

**UDC-CC is committed to providing a work and academic environment that encourages intellectual and academic excellence and promotes the emotional well being of its students, faculty and staff. Sexual harassment is inconsistent with this objective and contrary to the College’s policy of equal employment and academic opportunity. The College’s policy on sexual harassment is designed to address and resolve complaints, support complainants, protect confidentiality and preclude retaliation against complainants and those who cooperate with an investigation. Sexual harassment of even one person by any other person is an institutional problem and the College administration wants to know about it so that prompt and appropriate action can be taken to protect the victim and ensure that no further incidents occur. The prompt reporting of harassing conduct will result in a thorough investigation and when appropriately established, will result in discipline of the harasser. Incidents of sexual harassment should be reported initially to a UDC-CC Student Success Center Counselor for immediate assistance.**

**6. EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION**

**The Community College is an equal opportunity and affirmative action institution. Its programs, employment and educational opportunities are available to all qualified persons regardless of race, color, sex, national origin, religion, age, marital status, personal appearance, sexual orientation, gender identity or expression, family responsibilities, matriculation, political affiliation, genetic information, disability (mental or physical) and Vietnam veterans or disabled veterans.**

**DISCLAIMER**

*The instructor of this course reserves the right to append course content areas of this syllabus and to provide students with notice of the change within a reasonable time frame.*