

**151**  
**Linear Mathematics**  
**Spring, 2019**  
**CRN 11979**  
**SECTION 100**  
**Wednesday**  
**6:30 p.m. – 9:35 p.m.**  
**Room 204**

**Contents:**

**Syllabus.**

**Recommended homework.**

**Supplement: linear regression and matrices.**

**Reviews for tests 1 – 3 with solutions.**

## **SYLLABUS**

**Course: MATH 151, Linear Mathematics**

### **Catalog description**

Cartesian coordinates, linear equations in two variables, graphing lines, systems of linear equations and inequalities, Gauss-Jordan elimination, matrices, matrix addition and multiplication, matrix inversion, geometric solution of linear programming problems, the Simplex method, duality. Prerequisite: MATH 118 with a grade of "C" or better or MATH 161 (or higher) placement.

### **Learning outcomes**

Upon successful completion of this course, students will be able to:

1. Graph lines, linear inequalities and systems of linear inequalities in the plane
2. Determine whether a system of linear equations is independent, dependent or inconsistent, and solve systems of linear equations using matrices
3. Solve linear programming problems graphically and using the simplex method

**Instructor: Dr. Arkady Kitover**

**Office: 327**

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**Web Page: <http://faculty.ccp.edu/FACULTY/akitover>**

**The web page contains the syllabus and the reviews with complete solutions.**

**Phone: (215) 972-6212**

**Office hours: WR 5:00 – 6:30 pm, T 5:00 – 6:00 pm**

**Book:** Community College of Philadelphia, Linear Math (Math 151).

**Course outline:** Straight Lines and Linear Functions.  
Sections 1.1 – 1.2  
Systems of linear equations.  
Section 2.1  
Review 1.  
Test 1.  
Matrices and their applications.  
Sections 2.3 – 2.6  
Supplement: linear regression and matrices.  
Review 2.  
Test 2.  
Linear programming:  
Chapters 3 and 4.  
Review 3.  
Test 3.

Quizzes for extra credit will be given in class at the discretion of the instructor.

**Grading:** I will add the results of three tests (100 points each) plus what you earn on extra credit quizzes.

**A:** 270 – 300 points.  
**B:** 240 – 269 points.  
**C:** 210 – 239 points.  
**D:** 180 – 209 points.  
**F:** 0 – 179 points.

**Class Rules:** No food is allowed in the classroom. Put your cell phones in the vibration mode before the class starts. You may not use cell phones during a test. You may not use electronic devices in the classroom for texting, surfing the web, et cetera.

Attendance will be taken every time the class meets; people missing three classes or more without a valid reason will be dropped from the course.