Northern Virginia Community College

MTH 152-007A (15517) **Math for the Liberal Arts II (3 CR.)** **Fall 2014**

Syllabus

Instructor: Dr. Alexander Krantsberg
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Phone:
Office: Bisdorf, Room AA 352

Class Time: Thursdays, 7:30 PM - 10:10 PM
Classroom: Bisdorf , AA 355

Office hours: Monday 3:30 PM-7:00 PM
Tuesday 5:00 PM-7:00 PM
Wednesday 3:30 PM-5:30 PM (**AA 229**), 6:00 PM- 7:00 PM
Thursday 5:00 PM-7:00 PM

Important Dates

August 20	**Classes begin**
September 1	**Labor Day holiday. College Closed.**
September 8	**Last day to drop a class with a tuition refund.**
September 9	**Parking enforcement on "B" lots.**
October 13-14	**Non-instructional days. No classes. College offices open.**
October 30	**Last day to withdraw without grade penalty.**
November 26	**Non-instructional day. College closes at noon.**
November 27-28	**Thanksgiving holiday. College closed.**
November 29-30	**Non-instructional days. No classes. College offices closed.**
December 3-9	**Last week of classes**
December 11	**Final Exam**

Course Content

(visit http://www.nvcc.edu/academic/coursecont/summaries/MTH152.pdf for details)

Course Description

MTH 152– Introduces topics in functions, combinatorics, probability, statistics and algebraic systems.

Course Purpose

The purpose of the course is to give you an idea of the use of mathematics in real-life problems and develop your ability to solve some mathematical problems..

Prerequisites

Competency in Math Essential Units MTE 1-5 and the placement test, or successful completion 5 units in an MTT course, or a minimum mathematics score of 520 on the SAT taken within the last two years.

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Course Objectives

After completion this course, you should be able to:

- Analyze data and make inferences from data
- Apply counting principles
- Compute probabilities
- Describe the structure of algebraic systems
- Graph and apply linear functions

Major Topics

A. Statistics

1. Organization and display of data
2. Measures of central tendency, such as mean, median, or mode
3. Measures of dispersion, such as range, variance, or standard deviation
4. Normal curve
5. Samples and populations
6. Inferential statistics, such as confidence intervals, hypothesis testing, or regression

B. Combinatorics

1. Counting techniques, such as tree diagrams
2. Counting principles
a. Permutations
b. Combinations

C. Probability

1. Basic concepts such as theoretical probability, empirical probability, or odds
2. Computation of probabilities
a. Negation or complement
b. Sum or union
c. Conditional probability

D. Algebraic systems

1. Real number system axioms
2. Modular arithmetic
3. Systems such as groups, rings, or fields

E. Functions

1. Coordinate geometry
2. Linear functions
a. Graphing
b. Applications

A. Optional topics

1. Systems of linear equations
2. Linear programming
3. Exponential growth and decay
4. Matrices

Textbook

Syllabus

You have the following options.

1. NOVA Special Bundle – Mathematical Ideas with Appendices ,2nd Custom Edition Northern Virginia Community College by Charles D. Miller, Vern E.Heeren, and John Hornsby; ISBN: 1-256-17094-1 + **MyMathLab**
2. NOVA Special Bundle – Mathematical Ideas, 12th Edition by Charles D. Miller, Vern E.Heeren, and John Hornsby; ISBN: 0558554679+ **MyMathLab**
3. **MyMathLab (Standalone Access card)** If you purchase an Access Card, you will get access to online resources including an electronic version of the textbook. You can do homework using **MyMathLab.**

MyMathLab

MyMathLab is a valuable tool for study and review, and it is highly recommended (although it is not required for this course). If you do homework using MyMathLab, your grade for homework will be increased up to 10%.

If you already have access to MyMathLab or purchased it, you can sign in or register for the course at http://www.pearsonmylabandmastering.com/northamerica/mymathlab/ . The **Course ID** is **krantsberg87782**

Calculator

A scientific calculator with statistical operations is recommended for this class. If you plan to take Precalculus MTH 163 or Statistics MTH 241, a graphing calculator such as TI 83 or TI 84 is a better choice.

Grading Policy

Grading Categories

- Homework - 10%
- Quizzes - 15%
- Exams - 45 %
- Final Exam - 30 %

Course Grade

The course grade will be a letter grade:

A - 90%-100%
B - 80%-89.9%
C - 70%-79.9%
D - 60%-69.9%
F - below 60%

No audits are given in this class. **The last day to withdraw with refund is September 8, 2014**. **The last day to withdraw without grade penalty is October 30, 2014**. You are responsible for doing all paperwork before these last dates.

Attendance:

It is very important to attend this class. If you miss no more than one class, your lowest grade on homework, quizzes, or exams will be dropped. My experience shows that regular attendance and active class participation, in most cases, results in a passing grade.

Syllabus

Grading Assignments

Homework: Problems will be assigned for every section covered in class. The homework is due the following week of a class. Do not forget to put your name, the text book section, pages and the problem numbers.
Note: *If your average grade on the tests is more than 70%, you will get a 5% extra credit for your homework.*
Quizzes: We will have quizzes on most weeks when there is no exam. You can make up two quizzes.

Tests: There will be four exams, one hour each.
The tentative schedule for the exams is below.

Test 1 **September 4**
Test 2 **October 2**
Test 3 **October 30**
Test 4 **November 20**

Please let me know in advance if you are not able to attend the class on any of these days. You may make up a test within two weeks after the test. It is your responsibility to schedule the make-up test with me.

Final Exam

The final exam is scheduled for **Thursday, December 11, 2014 from 7:30PM to 10:00PM**.
The exam will be comprehensive and cover all course material.
All Students are expected to attend the final exam. There is no make-up for the final.

Exam and Test Policy
You may not share calculators during tests or quizzes. You may not use cell phones as calculators during testss and quizzes.
Cheating – receiving or giving unauthorized help- will result in a score of 0 on that exam.

Classroom Behavior
You should silence cellular phones. No texting during class time.

Inclement Weather or Other Emergency Events
If the college is closed, a text alert will be sent to cell phones registered on NOVA Alert, a notice will be posted on the College's website www.nvcc.edu/emergency. You can also call the College Call Center at 703.323.3000.

Special Needs and Accommodations
Please address with me any special problems or needs at the beginning of the semester. If you are seeking accommodations based on a disability, you must provide a disability data sheet, which can be obtained from the counselor for special needs, who is located in Bisdorf (AA) 229, phone

(703) 933-1840. More information may be found at the following website:
http://www.nvcc.edu/current-students/disability-services/index.html

Veterans (Active Duty and Reserve)
Please contact me early to request schedule accommodations for missed classes. Accommodation can be made if you provide me with the reason and time to reschedule on a case-by-case basis. If missing more than one day consecutively, then I will discuss how to study the lessons that you will miss.

Note: The syllabus is subject to change.

Course Outline
(Subject to change at any time)

Week	Date	Section	Assignment
1	08/21	Section 10.1 Section 10.2	pp.531-532 : 1,3,7,9,11,13,15,17,19,21,24,25,31,33,47 pp.541-543: 4,5,7,9,11,13,15,17,25,27,33,37,41,43,49,57,58,8-16, 25, 27, 32, 36, 40, 44, 47, 55, 58
2	08/28	Section 10.3 Section 10.5	pp.553-556: 1, 3, 5, 11,15,17, 19, 25, 33,35, 42, 51, 61 pp.572-574: 3, 5, 8, 10, 13, 15, 23, 29, 31
3	**09/04**	**TEST 1** Section 11..1 Section 11.2	 pp.585-588:1, 3, 7, 9, 12, 14, 16, 42, 55, 59 pp.594-596:1,4,7,19,13,15,19,35,36,39,41,43
4	09/11	Section 11.2 Section 11.3	pp.594-596:1,4,7,19,13,15,19,35,36,39,41,43 pp.603-606:1,3,5,7,9,11,15,17,23,36,45,63
5	09/18	Section 11.5 Section 12.1	pp.619-622:5,7,13,15,24,27,30,19 pp.636-640:1,3,5,9,13,17,27,41
6	09/25	Section 12.2 Section 12.3 Section 12.4*	pp.650-653:1,3,5,11,17,19,20,29,35,39,43,51 pp.659-661:3,9,11,15,23,29,30,41,43,45 pp.665-667:1,3,5,7,9,15
7	**10/2**	**TEST 2** 12.5	 pp.675-676:1,3,5,7,15,17,19,21,23,25,27,31,35
8	10/09	Section 12.5 Section 6.1	pp.675-676:1,3,5,7,15,17,19,21,23,25,27,31,35 pp.228-230:1,5,7,9,11,15,20,25,41,43,47,57,67,69,71
9	10/16	Section 6.2 Section 6.3*	pp.238-241: 1,4,7,9,11,13,15,17,27,30,33,35,39,43,47,49,54,69,71,72,73,83 pp.251-254:3,7,14,21,33,48,55,83,89
10	10/23	Section 6.4* Section 6.5*	pp261-264:1,5,7,9,13,25,33,43 pp.272-275:3,13,25,31,57,83
11	**10/30**	**TEST 3** Section 4.4(Clock Arithmetic)	 2,4,9,14, 25,33,39,42,44
12	11/6	Section 4.5(properties of Mathematical systems) Section 4.6(Groups) Section 8.1	1,2,7,11,12,15,33 3,7,13,16,21,24,27,31,43 pp.367-370:3,5,7,9,11,15,17,21,27,30,39
13	11/13	Section 8.2 Section 8.3	pp.376-379:1,3,7,11,13,19,21,25,27,29,31,37,40,41,43,53,57,59.61 pp.386-388:1,7,11,15,19,23,35,37,49,55,59,63,71

		Section 8.4*	pp.397-399:3,5,11,13,15,17,33,37,45
14	**11/20**	**TEST 4** Section 8.7 Section 8.8 Section 8.9*	 pp.425-426:3,7,9,13,17,27,33,41,55 pp.432-435:6,9,25,30 pp.444-445:1,3,5,15,17,19,23,25,31
15	**11/27**		**Thanksgiving Holiday**
16	12/04	Review	
17	**12/11**	**Final Exam**	**7:30PM – 10:10PM**