Meeting hours: Tuesday and Thursday 11:00am to 12:15pm

Meeting location: Gornto Teletechnet Building 218 and remote locations

Instructor
Dr. Andrey Chernikov
Office: ECS 3311A, email: achernik@cs.odu.edu, phone: 757-683-7732
Office hours: Tuesday and Thursday 2:00pm to 5:00pm, and by appointment

Course Information
Discrete mathematics is the part of mathematics devoted to the study of discrete objects. Here discrete means consisting of distinct or unconnected elements. The kinds of problems solved using discrete mathematics include:

• How many ways are there to choose a valid password on a computer system?
• What is the probability of winning a lottery?
• Is there a link between two computers in a network?
• How can I identify spam e-mail messages?
• What is the shortest path between two cities using a transportation system?
• How can a list of integers be sorted so that the integers are in increasing order?
• How many steps are required to do such a sorting?
• How can it be proved that a sorting algorithm correctly sorts a list?
• How many valid Internet addresses are there?

You will learn the discrete structures and techniques needed to solve problems such as these. More generally, discrete mathematics is used whenever objects are counted, when relationships between finite (or countable) sets are studied, and when processes involving a finite number of steps are analyzed. A key reason for the growth in the importance of discrete mathematics is that information is stored and manipulated by computing machines in a discrete fashion.

Current course information and assignments: https://www.blackboard.odu.edu (check frequently)

Prerequisites:
• Basic Math, most importantly: common functions and equations, derivatives and integrals (see course numbers from the catalog).
• Basic Computer Science, most importantly: variables, data types and expressions, assignment, control-flow statements, functions, arrays, pointers, structs, and classes (see course numbers from the catalog).


Grading
Weights of assignments
• 65% all weekly tests
• 15% midterm exam, to be given on October 13
• 20% final exam, to be given on December 13
• 10% extra credit challenge problems, to be given later in the semester

Your final percentage score will be computed as follows:
final score = \frac{\text{your total weekly test score} - x}{\text{maximum total weekly test score}} \times 65 + \frac{\text{your midterm exam score}}{\text{maximum midterm exam score}} \times 15 + \frac{\text{your final exam score}}{\text{maximum final exam score}} \times 20 + \frac{\text{your total challenge problem score}}{\text{maximum total challenge problem score}} \times 10,

where \( x \) is your lowest weekly test score, and \( y \) is the number of points allocated for this test.

**Letter Grade**

<table>
<thead>
<tr>
<th>final score</th>
<th>0</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
<th>75</th>
<th>80</th>
<th>85</th>
<th>90</th>
<th>95</th>
<th>110</th>
</tr>
</thead>
<tbody>
<tr>
<td>letter grade</td>
<td>F</td>
<td>D-</td>
<td>D</td>
<td>D+</td>
<td>C-</td>
<td>C</td>
<td>C+</td>
<td>B-</td>
<td>B</td>
<td>B+</td>
<td>A-</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

**Policies**

- All assignments will be published and submitted through the Blackboard system. No other medium will be accepted, unless you obtain my prior permission.
- Late assignments will not be accepted, unless accompanied by a documented evidence (e.g., doctor’s note). An interruption in the internet connection will not be recognized as a reason to retake the test, unless accompanied by a note from the university IT department. Therefore, you are advised to complete the tests early.
- Weekly tests will have a week-long interval of submission. Once the interval expires, the test will close automatically. The correct answers will be revealed after the test closes.
- The midterm exam will be given instead of the regular lecture on the date specified above and will have a 24-hour interval for the completion starting at 9:00am.
- The final exam will be given on the date set by the University (specified above) and will have a 24-hour interval for the completion starting at 9:00am.
- For open-ended questions you can either type or handwrite (and then scan), and upload your answers. However, appeals of low grades based on misread handwriting will not be accepted. Please use the portable document format (pdf).
- Your writing must be clear and concise. Points will be taken off for unnecessarily wordy or incomprehensible solutions.
- You must work on all assignments individually. You cannot ask any person, except me or the teaching assistant, for help with solving your assignments.
- You are free to consult the internet and any printed materials. All sources used in your answers, except the textbook, must be cited. If you need to quote a cited source verbatim, use quotation marks and indentation.
- Questions concerning the assignments and the grades should be addressed to the teaching assistant. Questions concerning the understanding of the material should be addressed to me.
- Class attendance is not factored into the grade; however, it is very important for the understanding of the material.
- You are free to propose a challenge problem that you like, but you need to obtain my approval before starting working on it.
- You must be familiar with and abide by the University Honor Code: https://www.odu.edu/about/monarchcitizenship/student-conduct/code.

**Disability**

Old Dominion University is committed to ensuring equal access to all qualified students with disabilities in accordance with the Americans with Disabilities Act. The Office of Educational Accessibility (OEA) is the campus office that works with students who have disabilities to provide and/or arrange reasonable accommodations. If you experience a disability which will impact your ability to access any aspect of my class, please present me with an accommodation letter from OEA so that we can work together to ensure that appropriate accommodations are available to you. If you feel that you will experience barriers to your ability to learn and/or testing in my class but do not have an accommodation letter, please consider scheduling an appointment with OEA to determine if academic accommodations are necessary. The Office of Educational Accessibility is located at 1021 Student Success Center and their phone number is (757)683-4655. Additional information is available at the OEA website: http://www.odu.edu/educationalaccessibility/