



# Welcome to Introduction to Programming

CS 1112

Dr. Nada Basit // `basit[at]Virginia[dot]edu`



## Welcome to CS 1112!

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In this course...  
being kind, respectful,  
supportive, compassionate  
and mindful of others is  
*essential.*



# Welcome to CS 1112!

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**Be an Active Participant  
in Your Learning!**

**Be Curious!  
Ask Questions!**

# Announcements

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- Check the course Canvas site for the Syllabus and Announcements
- Think you are already familiar with the fundamentals of programming? Consider taking the place-out test for CS 11xx!
- Waitlist
  - If you need CS 1112 – feel free to stay on the waitlist
  - Considering switching to CS 111x? Please let us know – don't drop the course on your own unless you see an open *lecture and lab* spot (CS 1110) or open *lecture* spot for CS 1111 (if the course is being offered).
- Note: being on a waitlist doesn't guarantee enrollment into a course
  - Your instructor cannot force your enrollment into a section that is already full
  - In rare circumstances, a dean or the registrar may be able to help

# CS 111x place out

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- If you already know the material that we'll be covering, you may be able to place out of CS111x
- If you're not going to place-out, but know some programming, and want shorter weekly meetings, you could take **CS1111** (if the course is offered)
- In either case, you can take the **CS 111X Place-out Test**
- After taking the online test, you'll be given 1 of 3 results:
  - Placed-out of CS111X, *may move on to CS2100 if desired*
  - Qualified for CS1111, *can switch to that course, if it is offered*
  - Did not qualify for CS1111, *just means you are right where you need to be-stay in CS 1112!*
- Don't open the test until you are ready to take it
- Information about taking the **CS 111x place out test**: <https://uvacsadvising.org/placeout.html>
  - The test will be open through the first week of classes – Check with CS Office to confirm

# CS 1112 – Introduction to Programming

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- **Meeting Dates:** January 12 – April 28, 2026
- **Lecture / Location:** Sections 001 and 002

Section	Days & Time	Location	Professor
001	M/W/F, 12:30-1:45pm	Olsson Hall 018	Nada Basit
002	M/W/F, 2:00-3:15pm	Olsson Hall 018	

- **Mode of instruction:** In person
  - **Lecture & Lab:** *Course content and in-class “lab” activities – **BRING YOUR LAPTOPS!***
  - **Recommendation:** *Bring a notebook and pen/pencil to class to take notes*
    - *Great way to summarize the material and becomes a great study aide*
  - **Accessibility & Accommodations:** *Happy to work with you to accommodate your needs; let's chat!*

# Your Instructor



hello:-

- **Dr. Nada Basit**

- Office: Rice Hall 405
- OH: Mon (10:30-12:00pm) and Wed (TBD...!) *in person*
- [basit@virginia.edu](mailto:basit@virginia.edu)

*Best way to get in touch with me!*

*(Always include “CS 1112” in email subject line)*

**Prof. Basit's  
Office Hours Challenge!**



# About Me

## ~Photography

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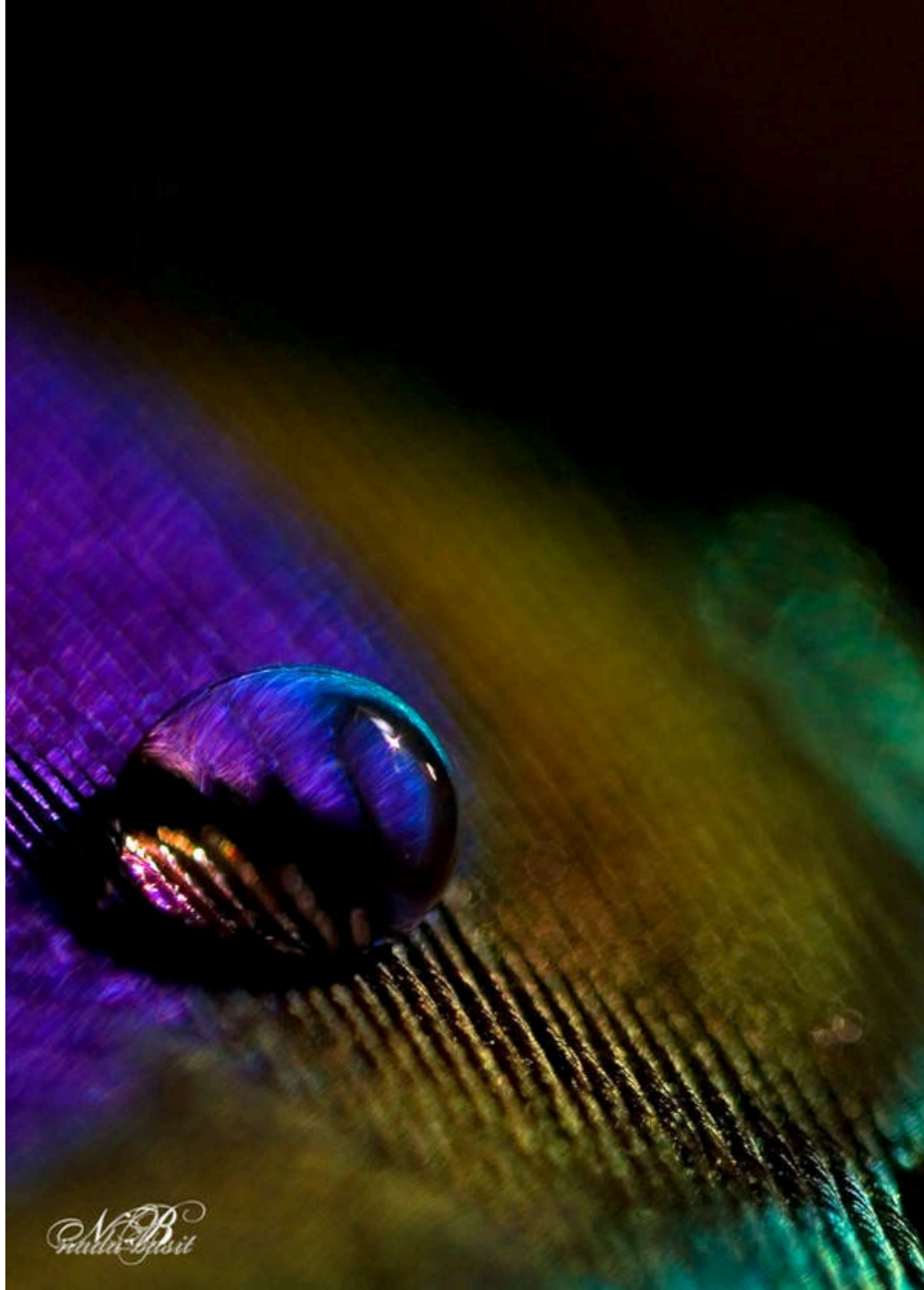
# ~Photography

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# ~Photography



# ~My Background

- **Education**

- PhD in Computer Science
- Machine Learning + Biology/Genetics  
→ Computational Mutagenesis
- Graduate Certificate in Biometrics

- **Areas of Interest**

- Artificial Intelligence (Machine Learning/Pattern Recognition/Data Mining)
- Databases
- Computational Biology
- Computer Science Education
- ...and of course, TEACHING! ☺



I'd be happy to talk about any  
and all of these things!



# TA Introductions 😊

## Student perception of TAs:



## In Reality...



Wait... we have to introduce ourselves?!



# ★ Student Introductions 😊

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- A post will be made on **Piazza** encouraging you to introduce yourselves.
- This is a **mini-assignment** that is **worth 5 points**.
- The goals for this assignment:
  1. Give you the opportunity to introduce yourself and get to know your classmates
  2. Introduce you to this semester's **Q&A platform** – Piazza
  3. Give you experience navigating to the Piazza website, finding a post, reading it, and responding to it

Have fun and be creative with your responses!

- **Deadline**: submit by **11:00pm** on **January 26, 2026**





# Quick & Fun Survey Questions

Get to know your peers! ☺

**PC vs. MAC?**



# Speaking of Laptops...

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- This course requires students to have a laptop
- I realize that not everybody might have one (nor necessarily need one for their desired major / path...)
- If you do not have a laptop for any reason... *not to worry!*
- The CS department's Systems staff has a notebook / laptop loaner program and will be able to loan you a notebook / laptop computer for the duration of the semester if you don't have one or if you cannot afford one.
  - Also available if your laptop is broken and under repair, we can arrange for you to receive a loaner laptop for a week or two until your own laptop is fixed

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★ Interested? Link: [https://www.cs.virginia.edu/wiki/doku.php?id=cs\\_laptop\\_loaner](https://www.cs.virginia.edu/wiki/doku.php?id=cs_laptop_loaner)

*I am happy to be your sponsor. Let me know.*

# Course Description



- If you take a moment to think about all the ways **computerized systems** penetrate our daily lives...
- Now think about how your day would go **without** devices, services, and conveniences that require some form of computer instruction...
- ... the importance of writing precise and correct computer instruction (code) is self-evident.
- A first course in programming, with an emphasis on introducing **computing fundamentals** and an appreciation of **computational thinking**.
- For students with **no previous programming experience**.



# What Will We Be Learning?

- Programming in Python
  - **Variables and Types/basic data structures:**
    - ints, floats, strings, booleans, lists, tuples, dictionaries
  - **Control:** functions, conditions, repetition (loops)
  - **File Input/Output** (“*File I/O*”): reading, writing
  - Using **libraries**
  - **Regular expressions**



# Course Objectives/Goals

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- By the end of the semester, students should be able to:
  - Understand the nature of the syntax and semantics of a programming language.
  - Analyze a problem and create a solution.
  - Produce a small working program that solves the problem given a set of requirements.
  - Understand and implement basic test strategies to test a program, given a set of requirements
- Develop an appreciation for computational thinking
- Understand basic object-oriented design and programming
- Effectively communicate with peers and instructors about your programming

An illustration of many hands of various skin tones reaching up to hold glowing yellow lightbulbs. The hands are positioned at different heights and angles, creating a sense of collective effort and shared ideas. The background is a light, neutral color.

# Lecture & Lab Combined

- In-Person
- Learning the course content and practicing through **hands-on activities/experiences**
- Please bring your laptop
- ***Commit to be a daily, active participant!***
  - Sign the **pledge**  
(soon, once enrollment settles down a bit)



# Course Schedule

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- See the “**Course Schedule**” tab on the left navigation bar on Canvas
- Let’s look at Canvas together





# ★ Syllabus Quiz

Don't forget to  
take the Syllabus  
Quiz!

- This quiz is *Mandatory!*
- This quiz is located on Canvas (see tab on left-hand side).
- Take this quiz *individually*. Absolutely no collaboration permitted.
- Must get **100%** to stay in the course! *May take it as many times as needed.*
  - Review the detailed Syllabus
  - This quiz is *open-book*
  - See score out of **12 points** on Canvas Grades to confirm you've completed the quiz
- *Opens: Very soon!*
- *Deadline: **January 28** @ **11:00pm**.* (Just after the add deadline). *Take it early!*
  - *Most students should aim to finish the Syllabus Quiz by **January 23, 2026***



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# Installing Python and PyCharm!

Follow the installation guide corresponding to your computer's operating system (Windows or Mac).

On **Canvas**: **Files** > Installation Documents > **MacOS\_Installation.zip**  
**Files** > Installation Documents > **WindowsOS\_Installation.zip**

# ★ Installing Python and PyCharm



- **Goal:** Have Python and PyCharm installed before class on Friday, January 16th
- *Instructions/ video tutorials about working with files on PyCharm available on Canvas → Panopto*
- **Special one-off office hours:**
  - **What:** Special office hours to assist you with Python and PyCharm **installation issues**.
  - **Date:** **Tues. January 13 – Thurs. January 15**
  - **Where:** *(rooms are being booked)*
  - **When:** *(evening, specific times will be announced)*
  - **Who:** A few of our TAs





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# Peanut Butter & Jelly *Sandwiches!*



# Precise Instructions aka *Algorithms*

- Write down sufficient directions for making a PB & J sandwich!

Knife



GOAL



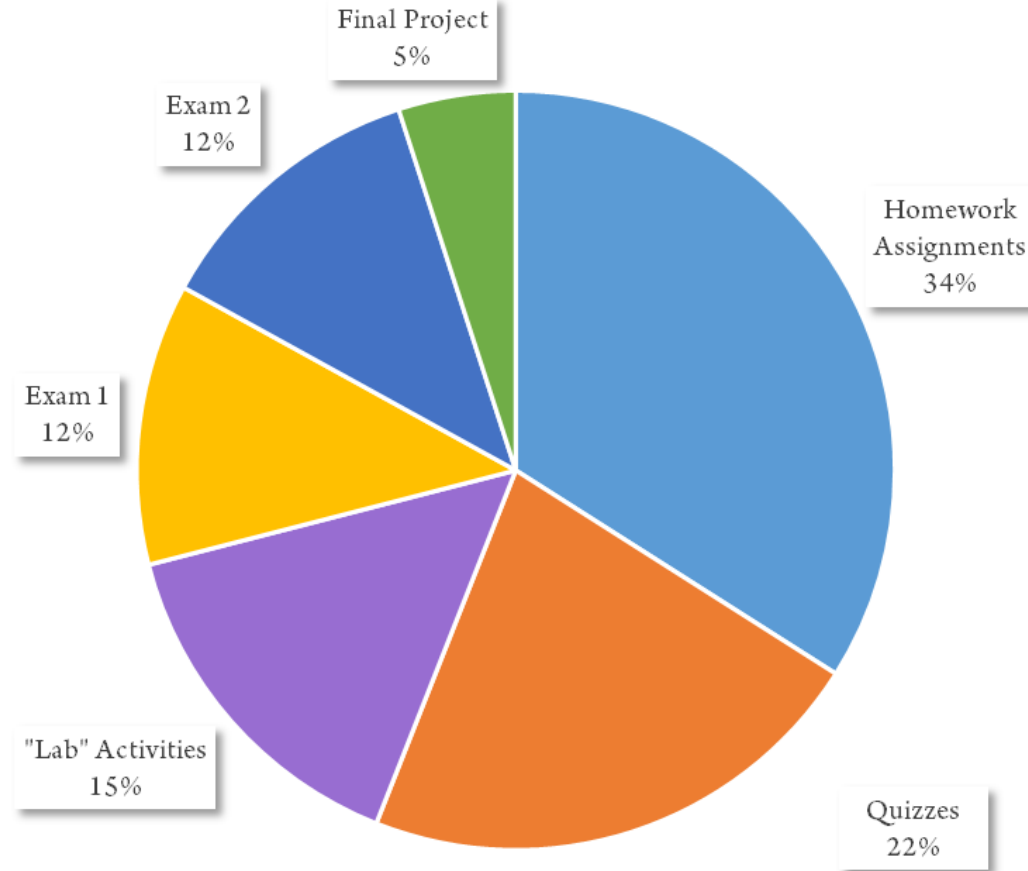
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# Additional Slides

*If there's time after the PB&J activity*



## Grade Breakdown for the Course




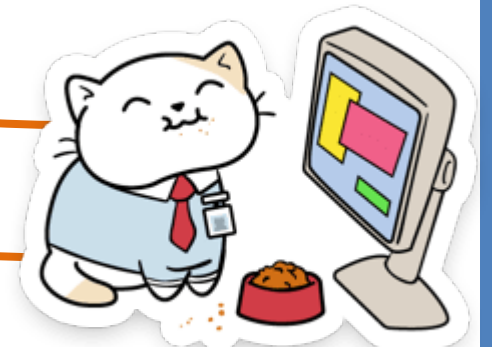
Letter grades will be assigned according to the following letter grade mapping:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Lower Bound	98.0	93.0	90.0	87.0	83.0	80.0	77.0	73.0	70.0	67.0	63.0	60.0	0

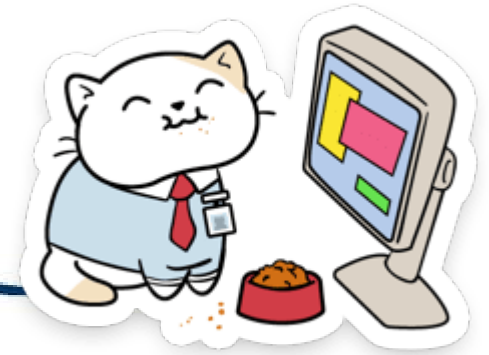
# Homework Assignments


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- **Approximately eight (8)** throughout the semester
- Use your programming assignments as a means to sharpen your skills and problem-solving abilities in order to do well on quizzes and the exams.
- Homework assignments are submitted online on **Gradescope** 
- Submit by the deadline
  - Can submit **up to 24 hours late**, if necessary, due to unexpected issues
  - Can submit **multiple times** on Gradescope – *look at feedback if applicable*
  - Last submission is the one that is graded
- Homework assignments are **due by 11:00pm on Wednesdays**

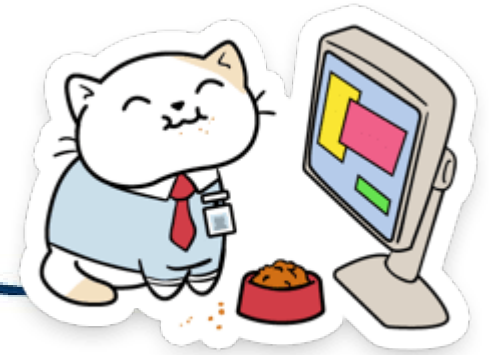


# In-Class “Lab” Activities



- **On most days** there will be in-class activities – designed to be hands-on, *collaborative*
- Give you the opportunity to review and reinforce your understanding of the material
- These activities are graded on a **completion basis** 
- Submit by the **end of class**
  - Not necessarily based on correctness, but of course try your best to be correct!
  - As long as you try your best and we see you have made a *sincere effort* towards the goal/solution of the activity
- If you participate in **at least 80%** of the activities, you will earn **full credit!**
- Be sure to **check-in with a TA** to show them your work *before leaving class!*

# In-Class “Lab” Activities (2)



- **Note:** We will **not accept** these lab activities for “grading” after the end of class.



As mentioned, based on our generous policy  
All students can miss up to 20% of in-class “lab” activities”  
throughout the semester without penalty. So please don’t ask  
to make up an in-class activity. It’s built into the system!

**Life Happens!** These activities can be missed for ANY reason  
including:

- Sickness
- Personal/family circumstances
- Religious obligations
- Travel ... anything!

# Quizzes



- **Approximately eight (8)** throughout the semester
- One of the primary ways that we will assess your mastery of the material in this course. It is also a good way to self-assess in preparation for the exams.
- 30-minute limit
  - Open-book, take-home, but no collaboration
- **Released Friday and due by 11:00pm the following Monday**
  - Find **any 30-minute window** during this period to take the quiz
  - No late options
- We will **drop two (2) lowest quiz scores**



# Academic Integrity Policies For Each Assignment Type

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- **Homework/Programming Assignments (PAs):**
  - No collaboration; all work must be the result of individual academic effort
- **Quizzes:**
  - Open-book, take-home
  - No collaboration; all work must be the result of individual academic effort
- **In-class “Lab” Activities:**
  - Collaborative by nature
  - Group discussions and engagements are highly encouraged
- **Final project:**
  - Collaboration in small groups permitted within the stated collaboration policy
- **Exams (1 and 2):**
  - Closed-book, in-person (in class)
  - No collaboration; all work must be the result of individual academic effort







# Quick & Fun Survey Questions

Get to know your peers! ☺

**East coaster / West coaster / Not from the US?**