IT 179
Introduction to Data Structures

Class

- Asynchronous

Contact Information

- Instructor: **Abdelmounaam Rezgui**
- Office: Williams Hall 17E (**WIH 17E**)
- Office Hours:
  - By appointment via Zoom

Contact Information

- Email: arezgui@ilstu.edu
  - please include **IT 179** in the subject line

Contact Information

- Grader: **Tyler Cummings**
- Email: tscummi@ilstu.edu
- Office:
- Office Hours:
  - By appointment

Course Web site

- **https://reggienet.illinoisstate.edu**

Course Description

- Intermediate computer programming, including elementary data structures such as linked lists, stacks, queues, binary trees.

Extended Course Description

- This course will build upon your introductory programming and design skills from IT 168.
- You will learn new programming concepts, such as recursion
- You will expand your understanding of object-oriented design
- You will be introduced to new tools for programming such as several elementary data structures: linked lists, stacks, queues, and binary trees.

Extended Course Description

- We will also continue to hone your testing and debugging skills.

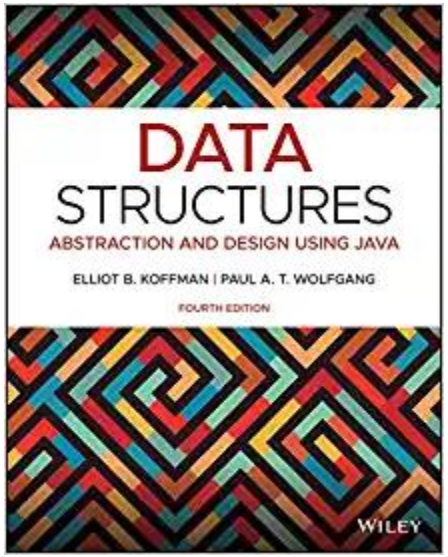
- Programs will be both **larger and more complex** than in IT 168, growing as your skills are growing.

Objectives

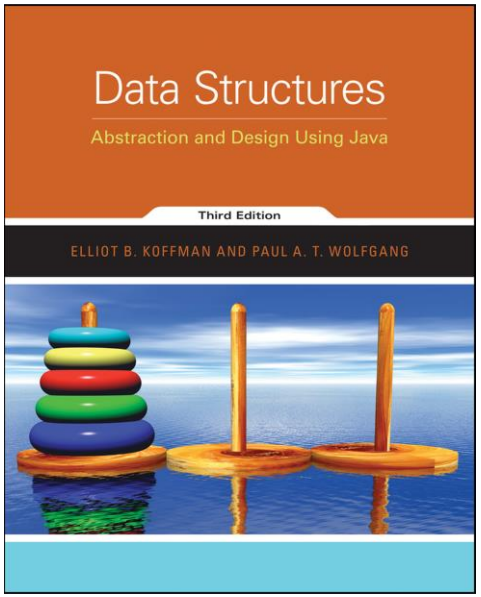
1. Develop moderately complex computer programs.
2. Employ appropriate object-oriented program design and documentation methods including the design of appropriate OO classes and methods.
3. Implement and use elementary data structures such as linked lists, stacks, queues, and binary trees correctly.
4. Design test data and conduct varying levels of program testing.
5. Trace and write simple recursive methods.

Textbook

Data Structures: Abstraction and Design Using Java
by Elliot B. Koffman, Paul A. T. Wolfgang



4th Edition (2021)



3rd Edition (2015)

Evaluations

Programs	80%
Final Exam	20%

Programs

- 11

Grading Scale

A:	90% - 100%
B:	80% - 89.99%
C:	70% - 79.99%
D:	60% - 69.99%
F:	Less than 60%

Attendance

- Attendance is expected.
- You are responsible for knowing everything covered in every class meeting including announcements, corrections, assignments, etc.
- If you are unable to attend a class period, it is your responsibility to obtain the class materials and assignments.
- Do not count on everything being announced on ReggieNet.

When poll is active, respond at **pollev.com/abdelmounaam190**

Text **ABDELMOUNAAM190** to **37607** once to join

Do you actually read course syllabi?

Yes

No

I just do a quick skim

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Read this story from Fall 2021

A professor hid a cash prize on campus.
All students had to do was read the syllabus

- Link:

https://www.cnn.com/2021/12/18/us/tennessee-professor-syllabus-money-trnd/index.html?fbclid=IwAR3wKKoju28SM3vJYVfuQgjtojhXJs2olWimcLgl3ZuR-EX2ncowLGYYPb4

Tentative Schedule

Wk	Date	Topics	Reading
1	5/16	Introduction Java Review Entrance Exam Program 1 – Review of IT 168	Appendix A
2	5/23	Multi-dimensional Arrays Program 2 - Multi-dimensional Arrays	
3	5/30	Abstract Data Types Inheritance and Polymorphism Interfaces Abstract Classes Program 3 – Abstract Classes	Ch. 1
4	6/6	Algorithm Efficiency List ADT The ArrayList Class Program 4 – The ArrayList Class	2.1-2.4
5	6/13	Single-Linked Lists Program 5 – Linked Lists	2.5
6	6/20	Double-Linked Lists Program 6 – Double-Linked Lists	2.6 2.7-2.10
7	6/27	Testing	Ch. 3
8	7/4	Stacks Program 7 – Stacks	4.1-4.4
9	7/11	Queues Program 8 – Queues	4.5-4.7
10	7/18	Recursion Program 9 – Recursion	Ch. 5
11	7/25	Binary Trees Program 10 - Binary Expression Trees	6.1-6.5
12	8/1	Elementary Sorting Program 11 – Sorting **Final Exam**	8.1-8.4

Entrance Exam

- Check how much you understood and retained from IT 168
- Make sure you are ready for IT 179
- Part 1: **61 points**
- Part 2: **39 points**

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Do you prefer to use Eclipse or VSC?

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Today …

- Ice breaking

- Tell us about
  - Your name
  - Anything interesting you did in the break
  - Some fun facts about you

Some info about me …

- Abdelmounaam Rezgui

- MS, Computer Science, Purdue University

- PhD, Computer Science, Virginia Tech

Some info about me …

- I lived in 3 countries
- I speak 3 languages
- I have been to 4 continents

STOP
START