

CMSC389G: Introduction to Go

Course Description

Ever wish C was a little bit more like Python? So did Google! Go is a rapidly growing, compiled language developed by Google, and is used often in the industry. This course will cover the basics of Go, its eccentricities, shortcomings, and its applications. We will also briefly cover microservices, and technologies related to it.

Course Details

Instructor Name and Email:

- Mohammad Nayeem Teli <nayeem@cs.umd.edu>

Facilitators' Names and Emails:

- Dhanvee Ivaturi <dhanvee@umd.edu>
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Course Website: *tbd*

Course Piazza: *tbd*

Other Info:

- **Prerequisites:** CMSC216, CMSC250 with a C- or better
- **Textbook:** none
- **Credits:** 1
- **Semester:** Fall 2020
- **Seats:** *tbd*
- **Lecture Time:** Fridays ??:00 p.m - ??:50 p.m
- **Location:** IRB ????

Topics Covered

- Intro to Go
 - Syntax basics
 - Loops
 - Arrays
 - Functions and closures
 - Errors
 - Files and 'defer'
 - Interfaces
 - Maps
 - Pointers
 - Structs
- Advanced Go
 - Goroutines
 - Channels
 - Modules
 - Benchmarking
 - The net package
 - Logging
 - Command line arguments
- Using Go in the real world: deploying in the cloud
- Go's design choices
- Things not to like about Go
- Microservices
 - Docker
 - Kubernetes

Schedule*

Date	Week	Topic	Assignment
09/04	1	Course intro, Go basics	- Project 1 assigned
09/11	2	Loops, Functions, and Arrays	- Project 2 assigned
09/18	3	Interfaces and Maps	- Project 3 assigned
09/25	4	Files, defer, and Errors	- Project 4 assigned
10/02	5	Pointers and Structs	- Project 5 assigned
10/09	6	Goroutines and Channels	- Project 6 assigned
10/16	7	Goroutines continued	
10/23	8	MIDTERM	- Project 7 assigned
10/30	9	The go command	- Project 8 assigned
11/06	10	The net package	- Project 9 assigned
11/13	11	Cobra and Logrus	- Project 10 assigned
11/20	12	DevOps and Microservices	- Final Project assigned
11/27	THANKSGIVING		
12/04	13	Docker	
12/11	14	Kubernetes	- Final project due

*Note that this is a tentative schedule, and that the pace of the class may change.

Grading

Grades will be maintained on ELMS. You will be responsible for all material discussed in lecture as well as other standard means of communication (Piazza, email announcements, etc.), including but not limited to deadlines, policies, assignment changes, etc.

Any request for reconsideration of any grading on coursework must be submitted within one week of when it is returned. No requests will be considered afterwards.

Your final course grade will be determined according to the following percentages:

Percentage	Title	Description
35%	Programming Projects	A programming project will be assigned every week, going over features learned in lecture.
15%	Midterm	The midterm will be on all material covered so far, testing your knowledge of the course on a high level.
20%	Final Project	By the end of the course, you should be fluent enough in Go to write a medium scale project. We'll be making an API server and host it online afterwards!
15%	Participation	Class attendance will contribute to this category. As with any course, excused absences are allowed. In addition, two absences will be dropped.

Excused Absence and Academic Accommodations

See the section titled "Attendance, Absences, or Missed Assignments" available at [Course Related Policies](#).

Disability Support Accommodations

See the section titled "Accessibility" available at [Course Related Policies](#).

Academic Integrity

Note that academic dishonesty includes not only cheating, fabrication, and plagiarism, but also includes helping other students commit acts of academic dishonesty by allowing them to obtain copies of your work. In short, all submitted work must be your own. Cases of academic dishonesty will be pursued to the fullest extent possible as stipulated by the [Office of Student Conduct](#). It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.shc.umd.edu>.

Course Evaluations

If you have a suggestion for improving this class, don't hesitate to tell the instructor or TAs during the semester. At the end of the semester, please don't forget to provide your feedback using the campus-wide CourseEvalUM system. Your comments will help make this class better.

Thanks to the CS professors at the University of Maryland, College Park for the basic syllabus outline!