

Syllabus

CSC 688 Go Language and Programming
Department of Computer Engineering
Santa Clara University

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Course website:
Office Hours:

Summer Quarter 2017
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<http://www.cse.scu.edu/~mwang2/language/>
Friday 9:30pm-10:00pm

Course Description

Go language is a parallel version of C/C++ language or as "C for the 21st Century" and based on communication sequential processes (CSP) paradigm. Go is efficient in both compilation and execution with garbage collection, and is expressive for programming productivity. This course teaches students how to master go programming including the language, its tools, and standard libraries. Features including basic data types, composite types, functions, methods, interfaces, goroutines and channels, concurrency with shared variables, packages and go tools, testing, reflection, and low-level programming, etc.

Prerequisites

None

Required Textbooks

- "The Go Programming Language" by Alan A. Donovan, Brian W. Kernighan, ISBN: 978-0-13-419044-0, Addison-Wesley 2015
- "The Go Programming Language Phrasebook" by David Chisnall, ISBN: 978-0321817143, Developer's Library 2012

Expected Learning Outcomes

- Demonstrate the knowledge of basic data types, composite types, functions, methods, interfaces, etc.
- Demonstrate the knowledge of goroutines and channels, concurrency with shared variables, etc.
- Demonstrate the knowledge of packages and go tools, testing, reflection, and low-level programming, etc.
- Practice examples of Go programming using Go libraries/tools, and implement example applications in Go.

- Read current research papers and implement example research group project using Go.

Grading Policy

Course grade is determined based on the total score (maximum 1100 points + up to 200 optional bonus points for extra work) from:

- Mid-term and final exams of 200 points each (close book with one A4 note, no sitting together, no wireless connection.) Makeup exams (must have a very good reason) are much difficult than normal exams.
- Two programming assignments of 200 points each (late penalty: 40 points/day.) Makeups are more difficult too.
- A group (2-3 people in a team) programming term project of 300 points (late penalty: 60 points/day.) No makeup is allowed.
- Bonus assignments will be assigned at each week with 20 points each. Due before next lecture begin by email to me (in plain text or PDF) with title "csc688 bN" (where N can be 2, 3, ..., 10) and cc to the grader. The solution for bonus assignments will be posted on my protected web page. Please read solutions of bonus assignments before asking questions. No late work accepted for bonus assignments. 75-80% of exam questions are similar to bonus assignments.
- Class average targeted at **B+**.

Table 1: Grade-score table

1200	1000	950	900	850	800	750	700	650	0
-	-	-	-	-	-	-	-	-	-
1300	1199	999	949	899	849	799	749	699	649
A+	A	A-	B+	B	B-	C+	C	C-	F

Course Schedule (Friday 7:00pm-9:45pm)

Table 2: Course Schedule

#	Week	Readings	Remarks
1	5/12	introduction	
2	5/19	data types	submit due 5/19
3	5/26	functions/methods	
4	6/2	interfaces	program #1 due 6/4
5	6/9	goroutine & channels	
6	6/16	concurrency with shared vars	

7	6/23	research procedure	program #2 due 6/25
8	6/30		mid-term exam 6/30
			problem due 6/30
9	7/7	skip	group & topic due 7/7
10	7/14	paper presentation	paper presentation 7/14
11	7/21	proposal presentation	proposal due 7/21
12	7/28	packages & Go tools & testing	
13	8/4	Reflection & low-level programming	
14	8/11		final 8/11
15	8/18	evaluate	project defense 8/18

Reminder

- No cheating, and no register complaint without talking to me first.
- No incomplete. No sit-in or audit the class except formally registered.
- Read files under /home/mwang2/tips for help.
- Handouts, assignments, and solutions will be posted on the web. You should check the class web site at least once a week (and don't forget to refresh the webpage to get the latest versions). You are responsible for printing and bring the handout to the class if you prefer printed pages.
- Office hours: Friday 9:30pm-10:00pm.

Honor Code

All students taking course in the school of engineering agree, individually and collectively, they will neither give nor receive unpermitted aid in examinations or other course work that is to be used by the instructor as a basis of grading.