Docs » Welcome

Welcome to CSC 2230 Programming for Engineers Winter 2019!

Use the navigation and search features to find necessary information.

Course Description

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Prerequisite: MAT 1234 or equivalent pre-calculus and calculus courses
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Introduction to computer programming with an engineering applications theme. This course is not the prerequisite to CSC 2430.

Times and Locations

- **Meeting Times**: M/W/F 9:30-10:50am in Otto Miller Hall (OMH) 244
- **Final Exam**: Thursday March 14th, 8-10 am at OMH 244

Also, read the following emergency response information provided by Safety and Security: Emergency Preparedness Information. **One the most important thing**: Call the Office of Safety & Security (OSS) at 206-281-2922 to report an emergency or suspicious activity. Save the number.

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Docs » Instructor and Contact

Instructor Information

- **Instructor**: Dr. Taiwoo Park
- **Office**: OMH 243

Class Announcements

The primary medium of announcements will be Canvas. Some time-critical announcements can be cross-posted on Slack or via e-mail. Make sure to subscribe canvas updates and check the canvas page in a regular basis.

Contact Method #1: Slack Messenger

This is the **best and fastest** way to reach out to me and get class community support. Use this Signup link and type your @spu.edu email: sputwp.slack.com/signup Use of mobile/desktop apps is **strongly** recommended. Search in app/play store or get more information at slack.com/downloads.

Once you sign-up, you can use sputwp.slack.com to open the slack channel.

Join the class channel #csc2230-winter19 and ask questions there. It is a shared classroom messenger channel for all students in my classes.

Contact Method #2: Open Office Hours

You can stop by during the following times to ask question without appointment.

- Monday: 11:30am-2pm
- Tuesday: 9am-2pm
- Wednesday: 11:30am-2pm
- Thursday: by appointment
- Friday: 11:30am-2pm

To schedule an appointments outside of these hours, PM me on Slack.

Other contact methods

- *Snail* **e-mail**: twp@spu.edu
- *Emergency* **Office Phone**: 206-286-7258
- Canvas mail/message

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Docs » Course Overview

SPU Mission Statement

Seattle Pacific University seeks to be a premier Christian university fully committed to engaging the culture and changing the world by graduating people of competence and character, becoming people of wisdom, and modeling grace-filled community.

ECS Department Mission Statement

Our mission is to equip students with theoretical knowledge and applied skills to create and utilize appropriate solutions in Engineering and Computing disciplines. Within a supportive Christian community, we prepare our students to become responsible and effective servant-leaders.

Learning Outcomes

Be able to write computer programs that: *Process text files.* Do math. * Manipulate and plot data.

Understand: *Basic computer topics (see Topics Covered).* What object oriented programming means. * How programming is used in engineering.

Topics Covered

Memory, bytes, binary/hex, Boolean logic, data types, chars, strings, arrays, basic operations, functions, objects, casting, scope, pointers, loops, iterators, complexity analysis, basic data structures (lists, dictionaries, sets, tuples), file read/write, numpy library, matplotlib library, optimization

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Docs » Textbook and Resources

Required Texts

- `free` `required` Python for Everybody, by Chuck Severance py4e.com/book
- `paid` `recommended` Python for Data Analysis, 2nd edition, by Wes McKinney

Software

This class will be using Jupyter Notebook for its default Dev Env. If you wish this for your personal laptop, and don't already have it installed, you can obtain it for free from its homepage at jupyter.org.

Storage Media or Source Repo

If you do not already have a USB flash drive for storing and backing up personal files, invest in one! USB flash drives are available for purchase all over these days, and you can get a lot of storage for pretty reasonable prices!

Otherwise, you may want to learn how to use online/local source code repository toolkits (e.g., unity cloud, git) and keep your codes backed up.

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[Docs](#) » Assignment and Grading

Assignments

Homework

Weekly assignments due usually every Wednesday evening, **typed and submitted electronically**. They'll be posted on Canvas as PDFs along with any necessary files or starter code.

You may discuss/study with others on the homework, but every assignment **MUST BE INDIVIDUAL WORK**. Do not share code with others!

Submission and Late Policy

The following procedures apply to all assignments (unless specifically directed otherwise).

- **All assignments must be submitted via Canvas to be accepted**. Each assignment will have a specified due date.
  - Emailed assignments are not accepted.
- Assignments not turned in when they are due are considered late. Late assignments will receive a penalty depending on the number of days delayed:
  - -10% for less than 1 day
  - -20% for less than 2 days
  - -30% for less than 3 days
  - -40% for less than 1 week
  - -50% for more than 1 week
- Late submissions will **NOT** be accepted after Friday, March 15.

Technical Challenge and Late Submission

Friendly Reminder: BE SURE TO ALWAYS BACK-UP YOUR WORK and store incremental copies in multiple places. Flash drives and personal laptops only fail just prior to the due date of programming assignments (or so it seems). The instructor is very unlikely to perceive a storage or system crash as adequate grounds for allowing an extension of a due date!

Quizzes

Each Friday there will be a quiz in the last 20 minutes of class. Doing the homework assignments diligently and paying attention in class will be sufficient to score 100%. The final exam will be composed of 3 individual quizzes to be completed during the final exam time.

The lowest 2 quiz grades will be dropped.

General Assignment Policy

All works are individual: Unless otherwise noted, all work is to be done on an **individual basis**. At the same time, it is understood that learning from your peers is valid and you are encouraged to talk among yourselves about programming in general and current assignments in particular. Keep in mind, however, that each individual student must do the work in order to learn. Hence, the following guidelines are established:

- Feel free to discuss any and all programming assignments.
  - Discussion on Slack in the class channel is encouraged, to share common pattern of troubleshooting experiences and to benefit from each other.
  - However, **DO NOT** allow other students to copy your code.
  - Given that said, **DO NOT** give any student an electronic or printed copy of any program you write for this class.
- Gaining the ability to properly analyze common programming errors is an important experience.
  - Do not deprive (too early) a fellow student of his/her opportunity to practice problem solving: control the urge to show them what to do by writing the code for them.
  - If you don't know how to do it wisely, ask the instructor or lab tutors to do it.
- If you've given the assignment a fair effort and still need help, see the lab tutors or instructor.
- **DOUBLE ZERO for plagiarism**: If there is any evidence that a program or other written assignment was copied from another student, both students will earn 'double zero' credit for the assignment.
  - That is, zero for the given assignment and another deduction of full credit amount of that assignment.
  - Following the university policy, the act will be automatically reported to department and dean's office.
- Protect yourself: Handle throw-away program listings carefully.

Grading policy

Grades will be based on performance in three areas:

Area	Portion
Homework	45%
Quizzes	45%
Attendance	10%

The grading scale is:

Range	Grade Mark
90% and above	A, A-
80% - 89%	B+, B, B-
70% - 79%	C+, C, C-
60% - 69%	D
Below 60%	E

Attendance Policy

Your attendance will affect your grades directly. You have 30 points initially for the attendance.

- If you miss a class **without a prior notice**, you will lose 10 points.
- If you are late to the class **without a prior notice**, you will lose 7 points.
- If your attendance point hits 0 or below, your final grade mark will be automatically E.

Prior notices **should** include:

- Reason why you cannot make the class or would be late **(Notices without an appropriate reason may not be counted)**
- Ideas how you would like to make-up the class
- Refer to this form to report your being late or absence to your instructors respectfully.

Prior notices will be counted **if and only if** delivered before the class begins using the following media:

- Canvas message
- Slack message
- E-Mail

Classroom Policy Notes

- Academic Integrity

  The current edition of the SPU Undergraduate Catalog describes the University's commitment to academic integrity, which is breached by academic dishonesty of various kinds. Among these is turning in another's work as your own and committing plagiarism, which is the copying of portions of another's words from a published or electronic source without acknowledgement of that source. The penalty for a breach of academic integrity is a failing grade for the work in question on the first offense and a failing grade for the course as a whole with repeated offenses.

- Classroom Environment

  Mutual respect and consideration for others make for an effective classroom environment. By following a few sensible guidelines, we can make the classroom a more comfortable place for all. Be respectful for each other and the instructor.

  - Please turn off your cell phones at the beginning of class, or set them to silent mode, so you don't disturb our time together.
  - Do NOT use your computer during the class period for anything that is not class-related; that is rude and disrespectful not just to the instructor but to your classmates as well.
  - Eating and drinking in class
  - Food and drink are prohibited in the classroom to protect the equipment. The only exception will be for

water bottles, which are to be kept tightly closed when not being used.

- Always take care of bathroom visits and other personal needs before class begins.
- ARRIVE ON TIME. The instructor will make every effort to both start and end class on time. Barring unavoidable emergencies, it is expected that students will be in the classroom and ready to go right on time.
- If you know ahead of time that you need to leave class early, please let the instructor know and sit near the door so as to cause minimal distraction.

- SPU Closure

  SPU is closed Monday, January 14 (Martin Luther King Day) and Monday, February 18 (Presidents Day). Class will not meet on these days.

- Inclement Weather

  Inclement weather or an emergency may on occasion affect SPU's schedule. In some cases, classes and campus offices may shut-down entirely; in others there may be a late start or an early closure of the campus. Two campus contacts will always carry the most up-to-date information on the campus schedule: the Emergency Closure Hotline (206-281-2800) and the SPU Home Page. Since weather in the Seattle area can change rapidly, check these sites often for updates. If SPU is open but you are unable to travel to campus due to inclement weather, please let your instructor know as soon as possible. Finally, be sure to check your email for any messages from your instructor regarding class activities.

- Emergency procedure

  Note the emergency procedures posted in the classroom (and attached to this syllabus), and our emergency exits. In case of an emergency (fire, earthquake, hazardous material spillage, bomb threat, etc.), the class will evacuate the building and gather in the Alumni parking lot to the south of OMH (or, depending on the emergency, immediately go into lockdown). If evacuating, please stay together as you exit, and be sure to check in with your instructor once you reach the gathering place. Also keep your eyes open for classmates. The "buddy system" one learns in elementary school still applies in times of emergency!

- Disability statement

  In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, students with specific disabilities that qualify for academic accommodations should contact Disabled Student Services (DSS) in the Center for Learning. DSS in turn will send a Disability Verification Letter to the course instructor indicating what accommodations have been approved.

- Course Evaluation

  You are expected to participate in an online evaluation of this course and its instructor in a thoughtful and constructive manner. The evaluation data is used to make improvements in the course, and your feedback is considered when selecting textbooks, designing teaching methods and preparing assignments. Courses are evaluated using the Banner Course Evaluation System. All answers are completely confidential - your name is not stored with your answers in any way. Also, DO NOT send the instructor an "I filled out the evaluation" email, as this can endanger your anonymity. Both positive comments and suggestions for improvement are helpful. I will not see any results of the evaluation until after final grades are submitted to the University.

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Docs » CS/IS Learning Outcomes

Computer Science and Information Systems Program Learning Outcomes

Computer Science faculty have identified twelve primary Program Learning Outcomes for students in our majors. Each of the courses in our curriculum is designed to help students achieve specific learning objectives that will help them progress towards the goal of becoming competent, responsible and effective computing professionals.

As noted below, several of these learning objectives are particularly relevant to your studies in this class:

Relevant?	#	Objective Description
*	1	Attainment of problem-solving skills, especially those required to analyze, design and implement solutions involving the use of a computer
*	2	Ability to program computers in a current programming language using modern software and hardware engineering tools
	3	Understanding of modern computing systems and the theoretical aspects of computer science
	4	Demonstration of the necessary math and science skills to solve computing problems
	5	Responsibility in meeting professional commitments
*	6	Ability to manage projects within multiple constraints and to meet multiple goals
	7	Ability to successfully lead and work in teams with diverse membership
*	8	Effective oral and written communication of technical information using a variety of techniques
*	9	Awareness of the ethical and social impacts of technology, and the ability to take responsible action
*	10	Articulation of Christian perspectives on personal, societal, technical, or theological issues
*	11	Preparation for continued learning in a rapidly changing discipline
	12	Ability to locate, analyze and apply information on current events and new technologies obtained from a wide variety of sources and experiences

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