Dr. Anne Foerst
Walsh Science Center 111
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Office Hours: per appointment

CS 101-01: Beauty and Joy of Computing

Catalog Description

This course presents the history, social implications, great principles, and future of computing. It examines the computing applications that have changed the world and how computing empowers discovery and progress in other fields. The relevance of computing to the student and society will be emphasized. Some students will learn the joy of programming using a friendly, graphical language, and will complete a substantial programing project. The course consists of three lecture hours and, for some students, one two-hour laboratory per week. 3-4 credits. You will also create an e-folio that you will work on throughout the semester and will use in the other CS courses.

Note: There are some students who will take the lab and some who don't. Lab and lecture function independently.

Textbook

You will need an E-subscription to the New York Times which you can get for free at http://nytimes.com/passes Additional readings will be assigned and put on Moodle. The NYT articles will change if there are new developments in the field so please check regularly.

Attendance

In class, attendance is highly recommended. You have only 2 unexcused absences. For any additional unexcused absence, I will deduct 10% from that weekly grade.

Students placed on a mandatory quarantine or in isolation for potential exposure to or contraction of Covid may electronically send me documentation showing that they are in one of those states, and I will teach the respective classes in dual mode. If you attend via Zoom, your attendance only counts if you have your camera on and are visible on screen (unless you have a good reason not to that you have previously discussed with me).

Goals and Learning Objectives

CS 101 helps students establish a base upon which to build towards the longer-term goals of the Computer Science and Cybersecurity programs. The course addresses the following goals and objectives that have been established by the department:

Goal 1: Discipline Specific Learning

Students will be able to understand and apply the theoretical tools of computer science to standard problems from the field.

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- Students will learn core concepts of the discipline as determined by a nationally recognized professional computer science education organization.
- Students will understand and analyze algorithms written in pseudo-code.
- Students will identify the various components of a computer-based system and explain how they integrate to form a coherent solution. Students will document the components in a style commonly used by software professionals.

Goal 2: Reasoning and Inquiry Skills

Students will be able to read, write, and analyze program fragments and complete programs.

Course web page:

The course material is available on the Moodle site. There is a Moodle page for the course: CS 101, and a separate Moodle page for the lab: CSL 101. General announcements, readings, assignments, and laboratory exercises for the course will be given in class AND published on the Moodle sites. Students are expected to check Moodle regularly for news and assignment deadlines

Dishonesty Policy

If a student fails to prove that he or she has done work by herself (that is: the student cannot answer questions about it in class), it has to be re-done. If there is any evidence of plagiarism, the work will be graded "F".

After cheating once, the student has to sign a confession that is given to their Dean. Cheating twice leads to failure of the class.

For the University Policy, please see

https://web.sbu.edu/friedsam/governing/academic_policies/academic_honesty_policy.pdf.

Large Language Model (LLM) Policy

Writing is an essential form of critical thinking and problem-solving as well as an ethical endeavor expressive of the university's values. Large Language Models (LLMs) such as ChatGPT, GPT 4 and Bard are AI-based tools that identify patterns in large collections of text, culled from various sources including especially webpages on the internet, and then reproduce those patterns in response to prompts by users. LLMs can generate texts in a very short amount of time, making it seemingly easier and more efficient to search for and find summarized information and ideas related to the subject of interest.

However, there are ethical considerations for using them including but not limited to the fact that their data is taken from writers without reimbursing them, and that they often repeat racist, sexist, and classist language that one can unfortunately find online. You can also be kept from critical thinking when using them. For these and other reasons, this is why some instructors will prohibit any use of LLMs.

I allow the limited use of LLMs. However, if you submit work that makes use of LLMs you need to do the following:

- You need to examine and evaluate the information generated by LLMs, as they may produce irrelevant or inaccurate information, i.e. hallucinations. You need to check the source of the information and cite it properly. Texts generated by LLMs, copied and submitted as your final writing is considered a violation of the university's academic honesty policy.
- You should explicitly acknowledge the assistance of LLMs in the creation of your work (sections or parts that included ideas/issues initially identified via LLMs, or tasks achieved such as editing and paraphrasing, or calculations).
- When submitting larger works, you should provide an audit trail of queries (for example, a transcript of queries and responses) and a reflection report/note, as specified by the instructor.
- I will carefully inspect any texts that are suspected of plagiarism or have been generated largely by AI, as indicated by detection software. I will make a judgment on such cases to take the most appropriate action, taking into consideration the context of the course and the specific assignment.

Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources at the Health and Wellness Center (https://www.sbu.edu/life-at-sbu/student-health-safety-conduct/health-counseling-services), or at the Campus Safety Office (https://www.sbu.edu/life-at-sbu/campus-safety). For on-campus reporting, see the Title IX Coordinator (716) 375-2102, and Residence Life Staff (RAs, RDs, and other professional staff).

The University's policy and procedures regarding gender-based and sexual misconduct can be found online at https://www.sbu.edu/docs/default-source/life-at-sbu-quick-center/student-conduct/code-of-conduct/23-24-student-code-of-conduct.pdf

In the event of an emergency, call: (716) 375-2525. Be also aware that most university employees are mandated reporters.

Students with Disabilities

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Disability Support Services Office, Doyle room 26, at 375-2065 as soon as possible, to better ensure that such accommodations are implemented in a timely fashion. For more information, please see https://www.sbu.edu/life-at-sbu/services-for-students/disability-services.

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Evaluation Procedures and Grading

Class and Lab		Class only	
Current events:	app. 20%	Current events:	app. 50%
Quizzes:	app. 10%	Quizzes:	app. 25%
Lab exercises:	app. 40%	E-folio:	app. 25%
Lab midterm:	app. 5%		
E-folio:	app. 15%		
Lab Final:	app. 10%		

CLASS SCHEDULE

Aug 26:	Introduction and LLMs
Aug 28:	Email phishing and privacy
Sep 2:	Functions
Sep 4:	Quiz, 1st CE presentation. Topic: what you want
Sep 9:	Programing Paradigms
Sep 11:	Quiz, E-folio, 2nd CE presentation. Topic: what you want
Sep 16:	Abstraction
Sep 18:	Quiz, E-folio, 3rd CE presentation. Topic: what you want
Sep 23:	Video Games
Sep 25:	Quiz, 4th CE presentation. Topic: Video Games
Sep 30:	Women and Computing
Oct 2:	Quiz, 5th CE presentation. Topic: Women in Computing
Oct 7:	Computing and Inclusivity
9:	Quiz, 6th CE presentation. Topic: Computing and Inclusivity
Oct 16:	The Social Impact of Computing
Oct 21:	Quiz, 7th CE presentation. Topic: Social Impact of Computing
Oct 23:	E-folio
Oct 28:	Recursion
Oct 30:	Quiz, 7th CE presentation. Topic: what you want
Nov 4:	The Internet
Nov 6:	Quiz, 8th CE presentation. Topic: The Internet
Nov 11:	Free Speech
Nov 13:	Quiz, 9th CE presentation. Topic: Free Speech
Nov 18:	ChatGPT and other LLMs
Nov 20:	Quiz, 10th CE presentation. Topic: LLMs

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Nov 25:	**Cryptography**
Dec 2:	**Quiz, the Future of Computing.**
Dec 4:	**The Future of Computing**

Friday, Dec 13, 10:35 AM- 1:05 PM: Presentation of E-folios

Lab Section

Lab 1:	Exploring Snap!: Blocks, Scripts, Reporters
Lab 2:	Repeat, Drawing
Lab 3:	Playing Tag: Script Variables, Set vs Change, Random Blocks
Lab 4:	Clones and Broadcast
Lab 5:	Rock, Paper, Scissors: If Blocks, Global Variables
Lab 6:	Predicates, Conditionals, Loops
Lab 7:	Custom Blocks, User Input
Lab 8:	Complex Booleans
Lab 9:	Lists
Lab 10 and 11:	Encryption