**CSIS 28 Computer Architecture,**

**Spring 2019 Syllabus**

**Instructor:** Alexander Veselinov Stoykov

**Email:** [astoykov@gavilan.edu](mailto:astoykov@gavilan.edu) (Subject: CSIS28)

**Phone:** (408) 852 - 2879 (Use email to contact me)

**Course Title:** Computer Architecture

**Units:** 3 units (option: letter grade or pass/no pass)

**Location:** Online

**Duration:** 01/28 – 05/24

**Office Hours:** Online

**Textbook**: “*Assembly Language for x86 processors”,* by Kip R. Irvine, 6th Edition,

ISBN10: 0-13-602212-X

ISBN13: 978-0-13-602212-1

**Catalog Description:** Introduction to the organization and architecture of computer systems. Mapping of statements and constructs in a high-level language onto sequences of machine instructions is studied, as well as the internal representation of simple data types and structures. Numerical computation is examined with an eye toward possible data representation errors and procedural errors. Throughout the course, students will write short assembly language programs that utilize the concepts being studied. (C-ID: COMP 142) ADVISORY: Some programming experience or programming coursework.

**Assignments**: All assignments including the class syllabus (this) will be stored at <http://ilearn.gavilan.edu.> Your grade is based upon the assignments completed. When you complete all assignments, you have completed the course. Chapters from the required textbook will be covered every week. Every week several programming assignments will be given for each chapter. All assignments are due a week after they were assigned.

**Grading:** This course has Credit/No Credit Option. You will normally get a grade in the class, but if you fill out a Credit/No Credit petition before 1/3 of the class has passed, you can take the class for credit/no credit. Petitions are available at the office or registrar. Please tell me if you do request a Credit/No Credit Option. In order to get a Credit, you need to earn at least a C grade. Be sure you are **NOT** registered as a Pass/No Pass if you want to receive a grade.

**Course Grading Method**   
You can click on  on the class web site at [ilearn.gavilan.edu](https://ilearn.gavilan.edu) to see your current grade.

This class will be graded according to the following method:

###### A = 89% - 100% | A- = 88% - 87% | B+ = 86% - 85% | B = 84% - 78% | B - = 77% - 76%

###### C+ = 75% - 71% | C = 70% - 56% | D = 55% - 30 % | F = 0% - 29%

**Student Responsibilities:** Whether you are taking the face-to-face section of this class or you are doing it online, you are expected to log into the class page at least once every week This is how I will measure your attendance. You are also expected to keep up with the assignments and will need to spend several hours every weekworking on this class.If you disappear and stop turning in assignments, I may drop you**.**

**Keep up with the class work:** Do not fall behind with the assignments. What you learned in week 1 will be used in Week 2 and so on. If you procrastinate, you will soon be lost. Plan tolog into the class each week read the posted material, and complete the posted assignments.

**Incompletes:** I seldom give incompletes and never give them just because you have not done the work. Almost no one ever finishes an incomplete. According to admissions and records (A&R) rules: you are eligible for getting an incomplete grade “I” only if you have already completed 75% of the coursework. Only students who have been doing the class work and have extenuating circumstance may receive an Incomplete.

**Drops:** If you stop attending class, it is your responsibility to drop the class or you will get an “F”.

**Student Learning Outcomes:**

1. Write simple Assembly Language Programs.
2. Discuss basic strategies and analyze design decisions of computer organization and design.
3. Demonstrate the process whereby fundamental higher level programming constructs are implemented at the machine language level. Measure: programming projects, homework, exams

**Special needs:** If you have special needs such as hearing problem, visual problems, or other needs, please tell me after class and I will try to assist you.

Resource Center. ”**Necessary math skills:** If you are having trouble doing the math needed to solve the problems in the programming exercises, then you should take Math 233, Intermediate Algebra. We have noticed that one common reason students do not succeed in programming classes is the lack of math skills need to write programming algorithms. Requirement of many 4-year universities is that potential Computer Science (CS) students must take one year of calculus before becoming a CS major.

**Other classes to take:** Other classes you might take are CSIS 45 (C++), CSIS 42 (Python), CSIS46 (Data Structures with C++), CSIS27 (Data Structures with Java), CSIS24 (Java)

**ADA Accommodation Statement:** “Students requiring special services or arrangements because of hearing, visual, or other disability should contact their instructor, counselor, or the Disability Resource Center.”

**Occupational/Vocational Statement:** “Occupational/Vocational students – Limited English language skills will not be a barrier to admittance to and participation in Vocational Educational Programs.”

**Student Honesty Policy Reference Statement:**  “Students are expected to exercise academic honesty and integrity. Violations such as cheating and plagiarism will result in disciplinary action which may include recommendation for dismissal.”

**Course Contents**:

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| **Week** | **Topic** |
| Week 01 | Ch1: Basic Concepts |
| Week 02 | Ch2: Processor Architecture |
| Week 03 | Ch3: Assembly Language Fundamentals |
| Week 04 | Ch4: Data Transfer, Addresses, Arithmetic |
| Week 05 | Ch5: Procedures |
| Week 06 | Ch6: Conditional Processing |
| Week 07 | Ch7: Integer Arithmetic |
| Week 08 | Ch8: Advanced Procedures |
| Week 09 | Ch9: Strings and Arrays |
| Week 10 | Structures and Macros part 1 (Xtra Cred) |
| Week 11 | Structures and Macros part 2 (Xtra Cred) |
| Week 12 | Windows Programming part 1 (Xtra Cred) |
| Week 13 | Windows Programming part 2 (Xtra Cred) |
| Week 14 | Float Pt Processing, Encrypt (Xtra Cred) |
| Week 15 | Catch up with any missing assignments |
| Week 16 | Submit any missing assignments |