COURSE SYLLABUS COSC 2329 Computer Organization and Machine Language Dr. Tim McGuire 3 Semester Hours – Spring Semester 2018

Section 01 – AB1-204, 9 – 9:50 a.m., MWF Office: AB1-212G Office Hours: 10:00 – 11:30 a.m. MTWThF;. 12:30 -2:00 TTh; other times by arrangement Office Phone: (936) 294-1571 E-Mail: mcguire@shsu.edu Home Page: http://www.shsu.edu/~csc_tjm

Catalog Description: This course examines the functional components of computer systems. Topics discussed include processors, memory types and hierarchies, buses, I/O, interrupts, etc. with emphasis on how they affect program execution, parameter passing and inter-program communications between programs written in diverse languages.

Prerequisite: COSC 1436

Methodology: Lecture with outside laboratory assignments. The examinations will cover the material in the lectures, and will require that the student understand, apply, and extend that knowledge.

Objectives: This course will be an introduction to the fields of assembly language and computer architecture. The student in this course will learn:

- the principles of digital logic
- computer arithmetic
- the architecture of a specific microprocessor
- how to implement programs in an assembly language for that machine
- interfacing with high-level languages

Student Outcomes for the Computing Science Program:

- (a) An ability to apply knowledge of computing and mathematics appropriate to the discipline
- (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

Required Textbook:

• Instructor supplied notes.

Grading: There will be 2 to 3 major exams and at least one quiz during the course of the semester. Together, these will count as 45% of the total grade. Makeup exams must be scheduled with the professor within a week of the missed exam. A makeup exam will not necessarily cover identical material to the missed exam, and may be of a different format and difficulty level. There will be a final exam which will count as 25% of the grade. There will be several homework and lab assignments which will count as 30% of the grade. Any written reports will be graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.

Grading Scale: The following grade scale is used:

90	<	A	<	100
80	<	В	<	90
70	<	С	<	80
60	<	D	<	70
0	<	F	<	60

Absences: In accordance with University Policy (http://www.shsu.edu/students/guide/polpro/attendance.html), regular attendance is required; however, no points will be awarded or subtracted based on your attendance. You are responsible for all material covered in every class, regardless of whether you attended or not. It is your responsibility to obtain notes, assignments, etc., from fellow class members if you miss a class.

Academic Integrity: All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The university and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. No cheating on an examination or assignment is allowed. A score of zero will be given to the student if such a case occurred.

Proper Classroom Demeanor: Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Please turn off or mute your cellular phone and/or pager before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking among each other at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a directive to leave class or in being reported to the Dean of Students for disciplinary action in accordance with university policy.

Americans with Disabilities Act: According to University policy requests for accommodations must be initiated by the student. A student seeking accommodations should go to the Counseling Center and Services for Students with Disabilities (SSD) for instructions

Visitors in the Classroom: Occasional visiting of classes by responsible persons is allowed with prior arrangement with the instructor, as long as it does not interfere with the registered members of the class or the educational process.

WEEK	TOPICS
1	Data Representation
2	Machine Structure
3	The 80x86 family of processors
4	Sequential Logic
5	Combinational Logic
6	Processor design
7	Assembly Language
8	Processor status and the flags register
9	Flow control instructions
10	Logic, shift, and rotate instructions
11	The stack and introduction to procedures
12	Multiplication and division instructions
13	Arrays and addressing modes
14	String instructions
15	OS and BIOS system calls

Tentative Course Schedule: