COURSE SYLLABUS: Assembly Language

Course Prefix: COMP  Course No: 2033  Section No.: 01  CRN: 24815

Department of Computer Science  College of Engineering

Instructor Name: Ahmed A. Ahmed
Office Location: S. R. Collins Room 314
Email Address: amahmed@pvamu.edu
Snail Mail (U.S. Postal Service) Address: Prairie View A&M University
P.O. Box 519
Mail Stop 2515
Prairie View, TX 77446

Office Hours: M: 11 am - 1 pm; T: 2 pm - 6 pm; R: 1 pm – 3 pm, and by appointment

Course Location: S. R. Collins Room 211
Class Meeting Days & Times: TR – 11:00 AM to 12:20 PM

Course Abbreviation and Number: COMP 2033

Catalog Description: Credit 3 semester hours. Credit 3 semester hours. Study of the logical design and internal operation of digital computers and programming using a macro assembly language. Using several practical exercises to illustrate machine structures and programming techniques for a typical microprocessor environment, such as the Intel processor/IBM PC architecture. Prerequisites: COMP 1224.

Prerequisites: COMP 1224
Co-requisites: None


Recommended Text: None

Access to Learning Resources:
PVAMU Library:
phone: (936) 261-1500;
web: http://www.tamu.edu/pvamu/library/
University Bookstore:
phone: (936) 261-1990;
web: https://www.bkstr.com/Home/10001-10734-1?demoKey=d

Course Goals or Overview:

The goal of this course is to

1. To apply knowledge of computing and/or mathematics appropriate to the discipline.
2. To understand the Intel 80x86 Processor Family Instruction set and its basic architecture.
3. To understand the Assembly Language Fundamentals, procedures, parameter passing and stack operations.
4. To implement conditional processing, and integer arithmetic.
5. To be able to write assembly language to create both system level software tools and application programs.

Course Objectives/Accrediting Body ABET Standards Met: SACS and ABET

1. Graduates will have successful careers in Computer Science or related fields.
2. Graduates will have the necessary preparation to enter into advanced degree programs in Computer Science or related fields.
At the end of this course, the student will

<table>
<thead>
<tr>
<th> </th>
<th>Alignment with Academic Program</th>
<th>Alignment with Core Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstrate knowledge and application of mathematics</td>
<td>a1</td>
</tr>
<tr>
<td>2</td>
<td>Demonstrate ability to apply knowledge of computing</td>
<td>a2</td>
</tr>
<tr>
<td>3</td>
<td>Have the ability to understand and define requirements of the problem</td>
<td>c1</td>
</tr>
<tr>
<td>4</td>
<td>Have the ability to design and implement a program to solve the problem.</td>
<td>c2</td>
</tr>
</tbody>
</table>

Course Evaluation Methods

MAJOR TOPICS COVERED IN THE COURSE

1. Basic Concepts
2. Processor Architecture
3. Assemble Language Fundamentals
4. Data Transfer Addressing, and Arithmetic
5. Procedures
6. Conditional Processing
7. Integer Arithmetic
8. Advanced Procedures
9. Strings and Arrays
10. Structures and Macros
11. High-Level Language Interface

Based on the topics above, this course will utilize the following instruments to determine student grades and proficiency of the learning outcomes.

**Exams** – written tests designed to measure knowledge of presented course material

**Assignments** – assignments designed to supplement and reinforce course material using Microsoft Macro Assembler (MASM). Please take a look at the following sources to install MASM at your machine:

- SASM: [https://dman95.github.io/SASM/english.html](https://dman95.github.io/SASM/english.html)

**Class Participation** – daily attendance and participation in class discussions

**Grading Matrix**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value (points or percentages)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>4 assignments for a total of 20%</td>
<td>20</td>
</tr>
<tr>
<td>Quizzes</td>
<td>4 mini-tests for a total of 20%</td>
<td>20</td>
</tr>
<tr>
<td>Midterm</td>
<td>Midterm for %15</td>
<td>15</td>
</tr>
<tr>
<td>Class Attendance / Participation</td>
<td>5%</td>
<td>5</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Final for 40%</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Exam Policy**

Exams should be taken as scheduled. No makeup examinations will be allowed except under documented emergencies (See Student Handbook).
University Rules and Procedures

Disability statement (See Student Handbook):
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

Academic misconduct (See Student Handbook):
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

Forms of academic dishonesty:
1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else’s words, ideas, or data as one’s own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one’s own work also constitutes plagiarism.

Nonacademic misconduct (See Student Handbook)
The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor’s ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

Sexual misconduct (See Student Handbook):
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

Attendance Policy:
Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student’s course grade being reduced or in assignment of a grade of “F”. Absences are accumulated beginning with the first day of class.

Student Academic Appeals Process
Steps to Resolve Grievances
1. Student must first address his/her concern to appropriate faculty member who is associated with the matter of concern within 10 working days of the occurrence. Faculty member should respond within 10 working days of the receipt of the complaint.
2. Student may appeal faculty member’s decision with the department head. Appropriate grievance form must be completed and emailed to department head within 7 days of receipt of faculty member’s decision. The department head decision should be made within 15 working days following the filing of the grievance.
3. Student may appeal the decision of the department head to the Dean in writing within 5 working days of receiving the department head’s decision. The Dean will render a decision within 10 working days of receipt of the grievance.
4. Should the student wish to appeal the decision of the Dean, the student should follow the University’s grievance procedures.

At the discretion of the instructor, additional (optional) assignments and or makeup exam may be given for extra credit. The instructor reserves the right to adjust the syllabus according to the progress of the class. The instructor reserves the right to change the grading matrix and/or the grading scale of individual assignments/tests/quiz/make ups based on the continuous class performance.