ITD1033 – Introduction to Computer Programming

Introductory course in structured programming techniques. Topics to be covered include principles of problem solving, flowcharts, pseudo code, common language structures, internal and external documentation, code development, debugging, version management concepts, using variables and constants, datatypes, and the hierarchy of math operations.

**Type of course:** Theory/Lab.
**Credit Hours:** 3; Total hours of theory per semester: 30;
Total hours of lab for the semester: 45; Total hours of clinical per semester: 0.
**Class length** - Full Semester
**Class format** – Face to Face
**Prerequisites:** none

**Instructor Name:** Jim Strother  
**Instructor Phone:** (918) 293-4798  
**Office:** EET/IT, Room 15E  
**Instructor email:** james.strother@okstate.edu

**Contact:** My preferred method of contact is email. Please allow 24-48 hours to return your correspondence during the normal work week.

**Instructor's Office Hours:**  
Tuesday/Thursday – 8:00am to 9:15am, 1:00pm to 3:15pm  
Monday/Wednesday – 8:00am to 9:15am, 3:00pm – 4:00pm

**School Name:** Information Technologies  
**School’s Main Phone:** 918-293-5440

**REQUIRED TEXT, REFERENCES, AND MATERIALS**

**Texts:** Programming Logic and Design, Introductory, Eighth Edition, Joyce Farrell  

**References:** None required

**Materials:** Access to a computer with broadband Internet Access (2Mbps upload preferred)  
Materials needed including data storage devices

**Uniform/Tools:** None

**Estimated Cost for Materials:** $181
**Estimated Cost for Uniform/Tools:** None
Upon completion of the course, students should:

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Assessment of Objectives</th>
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<tbody>
<tr>
<td>Create logical designs for IT systems that support specific Processes</td>
<td>Programming Exercises</td>
<td>B.1</td>
</tr>
<tr>
<td>Demonstrate the ability to design and develop programs for modern computing</td>
<td>Program Exercises and Performing</td>
<td>C.3</td>
</tr>
<tr>
<td>platforms (e.g., PC, cloud, mobile, web, powershell, scripting/python)</td>
<td>Maintenance Exercises</td>
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<td>Write simple and compound conditions within a programming language or similar</td>
<td>Programming Exercises</td>
<td>J.2</td>
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<td>environment (e.g., scripts, macros, SQL)</td>
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<tr>
<td>Utilize software testing, validation,</td>
<td>Programming Exercises, Performing</td>
<td>M.4</td>
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<tr>
<td>change control, defect tracking, or documentation techniques using industry</td>
<td>Maintenance Exercises, and Debugging Exercises</td>
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<td>standard methodologies and software</td>
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Aspects of the course objective assessments may be used in the university’s assessment of student learning. If applicable, an asterisk (*) above indicates this course is used in the university assessment program.

**COURSE ACTIVITIES**

In this course students will:
- Apply problem-solving skills to problems
- Practice with programming exercises to demonstrate the concepts by constructing logic flowcharts to solve problems
- Examine programs to identify problems in the logic or construction of the program and correct the errors in order to make the program complete the desired activity correctly
- Discuss personal and ethical issues that programmers must consider
- Participate in class discussions and class activities
- Take examinations and quizzes

**EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:** (NOTE- Please indicate the course-specific evaluations)

<table>
<thead>
<tr>
<th>Task</th>
<th>Weight Percentage</th>
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<tbody>
<tr>
<td>Class Interactions</td>
<td>5%</td>
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<tr>
<td>Programming Exercises</td>
<td>35%</td>
</tr>
<tr>
<td>Maintenance Exercises</td>
<td>15%</td>
</tr>
<tr>
<td>Debugging Exercises</td>
<td>20%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>*Final Exam</td>
<td>10%</td>
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<tr>
<td>Portfolio</td>
<td>5%</td>
</tr>
<tr>
<td>Professional Development</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</table>

*The student’s grade for this assignment will be used in the university’s*
assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student’s course grade.

Daily and/or weekly quizzes, small weekly assignments and similar type projects: Normal return time to student is no later than one (1) week.

Extensive assignments, large lab projects, extensive quizzes, exams and similar type projects: Normal return time to students in one (1) to two (2) weeks.
Campus Course Interaction
This campus course uses a variety of tools to build a community of learners and strengthen communication between students and their peers, as well as between students and the instructor. Through the use of these tools, you will be able to interact with others in the virtual classroom. Communication tools used in this course include Discussion, News, Blackboard Collaborate, and Email.

AUTHORIZED TOOLS
Students may use any/all course materials, including books and notes, while participating in online classroom activities. All quizzes, labs, and written assignments are to be completed independently and any instance of collaboration will be considered academic dishonesty. Collaboration with classmates while studying concepts and network configurations is permitted and encouraged.

LATE WORK
Turning in your properly-executed work early is always acceptable. All exams, assignments, papers and projects must be completed and submitted by the specified due date; late work will not be accepted after the due date unless prior authorization is given.

If the faculty member grades an assignment you have submitted before the due date, you do not have the ability to modify the assignment to increase your grade. Any additional submissions will not be opened, so make sure you are ready to submit you assignments and accept the grade you are given.

TESTING
Quizzes may be timed or proctored during this course.

UNIVERSITY & COURSE EXPECTATIONS
It is the responsibility of each OSUIT student to read, abide by, and maintain a copy of the syllabus for this course. Syllabi are available on the OSUIT website.

Students understand that excerpts or portions of their work may be utilized for institutional assessment purposes. The purpose of institutional assessment is for verification of student learning and program improvement. Every effort will be made to keep this information confidential.

AMERICANS WITH DISABILITIES ACT (ADA)
According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Academic Accommodations/LASSO Center. Please advise the instructor of your disability as soon as possible, and contact The LASSO Center, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official
notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. The LASSO Center is located on the 3rd floor of the Noble Center. You may call 918.293.4855 for more information or fax documentation to 918.293.4853.

**ACADEMIC DISHONESTY**
Academic dishonesty or misconduct is neither condoned nor tolerated at OSUIT. Any student found guilty of academic dishonesty or misconduct shall be subject to disciplinary action. Academic dishonesty and/or misconduct includes, but is not limited to, the following actions:

1. Plagiarism: the representation of previously written, published, or creative work as one’s own
2. Unauthorized collaboration on projects
3. Cheating on examinations
4. Unauthorized advance access to exams
5. Fraudulent alteration of academic materials
6. Knowing cooperation with another person in an academically dishonest undertaking.

Students are required to actively protect their work against misuse by others. For details, refer to The OSUIT Student Handbook (Student Rights and Responsibilities Governing Student Behavior) available online at http://www.osuit.edu/academics/forms/student_rights_responsibility.pdf.

**Attendance Policy for Face to Face Courses:**
A primary component of OSUIT's Mission is: “to prepare and sustain a diverse student body as competitive members of a world-class workforce.” Regular and consistent attendance not only aids in academic success, dependable attendance is a requirement in today's real-world employment; therefore, regular and consistent attendance is a requirement in all OSUIT courses.

**Definition:**
Absent: Failing to actively participate in online coursework during a standard week timeframe for a given course.

A. Students must demonstrate attendance through active participation in the course at least once every seven days. Simply logging into the course does not constitute active participation.

B. Active participation is defined as the completion of required activities such as:
   A. Completion of online quizzes or exams
   B. Submission of assignments
   C. Participation threaded discussions, or
   D. Involvement in discussion question as determined by the instructor and indicated in the course syllabus.

C. Calculations for weekly to percentage ratios
   1. Missing 1 of 15 weeks = 6.67%
   2. Missing 2 of 15 weeks = 13.33%
3. Missing 3 of 15 weeks = 20%
4. Missing 1 of 7.5 weeks = 13.33%
5. Missing 1.5 of 7.5 weeks = 20%

Procedures:

Early Intervention:
A. Any student who misses 10% of an individual course (or earlier at faculty discretion) during a regular fifteen-week semester, or the equivalent portion of time in a shorter session, will have their name submitted by that course instructor to the OSUIT Early Alert System for retention intervention.
B. At the point the Early Alert is issued, the student must meet with their assigned faculty advisor or designated faculty/staff member within seven (7) academic calendar days for counseling on how to improve their attendance and academic success.

Excessive Absences:
A. The University reserves the right to administratively withdraw any student from an individual course who misses 20% of that course, whether excused or unexcused, and, in the opinion of the instructor, the student does not have a reasonable opportunity to be successful in the course.
B. Students should be aware any of the following may impact their financial aid:
1. being administratively withdrawn from a course
2. dropping a course
3. their last date of attendance in a course

Please see OSUIT Policy 2-021 for full details and procedures.
<table>
<thead>
<tr>
<th>Schedule</th>
<th>Topic</th>
<th>Assignment</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>Week 1 &amp; 2</td>
<td><strong>Getting Started</strong> Working with Visual Logic and Logic Flowcharts</td>
<td>Basic Symbols Usage Basic Input, Process, &amp; Output</td>
<td>09/18/2016</td>
</tr>
<tr>
<td></td>
<td><strong>Module One</strong> Chapter 1 – An overview of computers and Programming Exercises #4, 5, 6, &amp; 9 (pg. 35). Performing Maintenance (pg. 36). Find the Pugs (pg. 36)</td>
<td>09/25/2016</td>
<td></td>
</tr>
<tr>
<td>Week 2 &amp; 3</td>
<td><strong>Module Two</strong> Chapter 2 - Elements of High-Quality Programs</td>
<td>Programming Exercises #7, 8, 10, &amp;11 (pg. 84-85) Performing Maintenance (pg. 85). Find the Bugs (pg. 85)</td>
<td>10/09/2016</td>
</tr>
<tr>
<td>Week 4 &amp; 5</td>
<td><strong>Module Three</strong> Chapter 3 – Understand Structure</td>
<td>Programming Exercises #6, 8, 8, &amp; 9 (pg. 122-123) Performing Maintenance (pg. 123). Find the Bugs (pg. 123)</td>
<td>10/16/2016</td>
</tr>
<tr>
<td>Week 5 &amp; 6</td>
<td><strong>Module Four</strong> Chapter 4 – Making Decisions</td>
<td>Programming Exercises #2, 3, &amp; 8 a.b.c.d. (pg 171-173) Performing Maintenance (pg. 175). Find the Bugs (pg 175)</td>
<td>10/30/2016</td>
</tr>
<tr>
<td>Week 7 &amp; 8</td>
<td><strong>Module Five</strong> Chapter 5 - Looping</td>
<td>Programming Exercises #2, 3, &amp; 8 (pg. 221-224) Performing Maintenance (pg. 224). Find the bugs (pg. 224)</td>
<td>11/13/2016</td>
</tr>
<tr>
<td>Week 9 &amp; 10</td>
<td><strong>Module Six</strong> Chapter 6 - Arrays</td>
<td>Programming Exercises #7, 8, 9, &amp; 10 (pg. 268 – 269) Performing Maintenance (pg. 271). Find the Bugs (pg. 271)</td>
<td>11/27/2016</td>
</tr>
<tr>
<td>Week 11 &amp; 12</td>
<td><strong>Module Seven</strong> Chapter 7 – File Handling and Applications</td>
<td>Programming Exercises #1,2, 4a, &amp; 5 (pg. 317) Performing Maintenance (pg. 319). Find the Bugs (pg. 319)</td>
<td>12/11/2016</td>
</tr>
<tr>
<td>Week 13 and 14</td>
<td><strong>Module Eight</strong> Final Activities</td>
<td>Final Exam &amp; Portfolio</td>
<td>12/14/2016</td>
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</tbody>
</table>
Schedule is subject to change at instructor discretion.