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CSCI 105.50C: Computer Fluency

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Recommended Citation

Stiff, Steven L., "CSCI 105.50C: Computer Fluency" (2016). *University of Montana Course Syllabi*. 4045.
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Missoula College UM
Department of Applied Computing and Engineering Technology (ACET)

Course Number and Title **CSCI 105 Computer Fluency**
Term **Spring 2016**
Semester Credits **3**
Prerequisites **Prior computing experience**

Faculty Contact Information**Faculty**

Steven (Steve) L. Stiff
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Email: steven.stiff@umontana.edu

Office

GH08-I
MC East Campus

Office Hours

T: 1:10 PM – 2:00 PM,
R: 10:10 AM – 11:00 AM,
R: 2:10 PM – 3:00 PM,
or by appointment

Class Meeting Times and Final

Section: 01C (CRN 31814)

Day, Time, and Location:

MWF 2:10PM – 3:00PM HB04

Final Exam Date, Time, and Location:

M 05/09/16 3:20PM – 5:20PM HB04

Course Description

Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security.

Course Overview

The term “computer literacy” has a connotation involving skills and competency in the use of basic computing applications. Examples of literacy include the use of a word processor or a web browser. “Computer fluency” requires a deeper understanding and competency of concepts involving information technology and is the basis of this course. The term “fluency” was coined by a National Research Council Report led by University of Washington Professor and textbook author, Larry Snyder. Fluency with information technology requires three kinds of knowledge: contemporary skills, foundational concepts, and intellectual capabilities. Contemporary skills, the ability to use today's computer applications, enable people to apply information technology immediately. In the present labor market, skills are an essential component of job readiness. Most importantly, skills provide a store of practical experience on which to build new competence. Foundational concepts, the basic principles and ideas of computers, networks, and information, underpin the technology. Concepts explain the how and why of information technology and they give insight into its opportunities and limitations. Concepts are the raw material for understanding new information technology as it evolves. Intellectual capabilities, the ability to apply information technology in complex and sustained situations, encapsulate higher-level thinking in the context of information technology. Capabilities empower people to manipulate the medium to their advantage and to handle unintended and unexpected problems when they arise. The intellectual capabilities foster more abstract thinking about information and its manipulation.

Course Objectives

Upon completion of this course students will:

- Demonstrate proficiency in the use of information technology, file management, and the ability to learn new software.
- Understand the basic operation of a computer, a local network, and the Internet
- Demonstrate proficiency in online learning and research.
- Identify security precautions for protecting personal information.

- Demonstrate concepts involving programming, digitizing, and encoding information.
- Develop general strategies to logically diagnose, troubleshoot, and solve technical problems.

Required Materials

- ***CSCI 105 Fluency with Information Technology***, Snyder and Schneider, 2015, Pearson Custom Textbook, ISBN 978-1-323-19402-7

Note: The textbook for the course is a custom text and is only available from the UM Bookstore. This text is not available from online wholesalers (like Amazon).

The material in the text is taken from two different resources. Rather than purchase both textbooks, we have taken only those resources that will be used in this course with the goal of minimizing student expense.

Evaluation and Grading Criteria

<u>Assessment</u>		<u>Grading Scale</u>	
Exams	45.0%	100% - 90%	A
Homework	45.0%	90% - 80%	B
Final Project	10.0%	80% - 70%	C
Attendance (Bonus)	2.0%	70% - 60%	D
		< 60%	F

Course Policies

Online Component

Various components of the course will be delivered via UMOonline (<http://umonline.umt.edu>) using the Moodle Course Management Software. It is the responsibility of the student to become familiar with and work in Moodle. Moodle training is also available through UMOonline.

Attendance

- Regular classroom attendance is expected and attendance is taken.
- Students more than 10 minutes late for class will not receive credit for attendance.

Attendance Bonus

The attendance bonus is based on course attendance and is added to the student's semester percentage. This policy provides students the possibility of advancing their semester grade to the next grade level by being diligent in their attendance.

The bonus is based on the percentage of contact hours attended as follows:

Attendance %	Bonus %
95% - 100%	2.0%
90% - 95%	1.5%
85% - 90%	1.0%
80% - 85%	0.5%

Assignments and Exams

- All assigned work is due at the assigned time on the assigned date.
- All exams are to be taken at the assigned time on the assigned date.
- **All late or missed work receives a score of 0.** Late work is accepted only in extraordinary circumstances, and is accepted and graded at the instructor's discretion.

Electronic Communication Devices

- All electronic communication devices must be secured, muted, or tuned off prior to the start of class.

- Any use of an electronic communication device during an exam is considered cheating and will be handled at the instructor's discretion (refer to *Student Conduct*).
- Audio and/or video recording of class sessions is not permitted without prior approval of the instructor (refer to *Students with Disabilities*).

Email

This course uses your student email account for all course email communication. Therefore, you are required to monitor and use your student email account for course email communication.

Student Conduct

- *All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University.*
- *Student conduct is governed by the Student Conduct Code. All students need to be familiar with the Student Conduct Code. It is available for review or can be downloaded at http://www.umt.edu/vpsa/policies/student_conduct.php.*

Students with Disabilities

- Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely manner. Please be prepared to provide me a copy of your *Letter of Verification* supplied by your *Disability Services for Students* (DSS) Coordinator for my records. Refer to <http://life.umt.edu/dss> or call **406-243-2243** (voice/text) for information regarding your rights.
- When requesting accommodations, please contact me after class or in my office to discuss your needs. This is done in order to maintain your privacy and minimize class disruptions.
- For students requesting examination accommodations, you must supply me the completed Learning Center (LC) scheduling form for my signature at least 3 days prior to the scheduled test date (the LC requires the signed form at least two days prior to testing). LC contact information is available at <http://mc.umt.edu/learning-center/> or call **406-243-7826**.

Policies for Dropping and Adding Courses, Changing Sections, Grading, and Credit Status

- The University Policy for dropping courses or requesting grading/credit status changes can be found in the academic catalog or on the web at <http://www.umt.edu/registrar/students/dropadd.php>. All students should be familiar with this policy.
- If you are having difficulty with the course for any reason and decide not to continue, please complete a drop or withdrawal form. A properly completed and approved drop or withdrawal form will prevent you from receiving a failing grade on your college transcript.
- Please note: if you are receiving financial aid, dropping or withdrawing from a course may affect your financial aid status.

Changes to Syllabus

The instructor reserves the right to modify the syllabus and assignments as needed based on faculty, student, and/or other circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class.

Important Semester Dates

Thursday-Friday, January 21-22	New Student Orientation
Monday, January 25	Spring Semester Classes Begin
Monday, February 15	Presidents Day – No Classes, Offices Closed
Monday-Friday, April 4-8	Spring Break
Friday, May 6	Last Day of Regular Classes
Monday-Friday, May 9-13	Final Exams
Saturday, May 14	Commencement

CSCI 105 Course Outline
(tentative)

Unit 1. Defining IT (Chapter 1)

- 1.1 Chapter 1: Defining Information Technology
- 1.2 Pixels and Metric Units
- 1.3 Analytic Comparisons: Image Resolution & Factor of Improvement

Unit 2. The Human-Computer Interface (Chapter 2)

- 2.1 Chapter 2: Exploring the Human-Computer Interface
- 2.2 Comparing Operating Systems and Their Application Programs
- 2.3 Common Software Features

Unit 3. The Basics of Networking (Chapter 3)

- 3.1 Chapter 3: The Basics of Networking
- 3.2 IP Networking and Domain Naming Services
- 3.3 Networking & File Transfer - SFTP & HTTP Protocols

Unit 4. HTML (Chapter 4)

- 4.1 Chapter 4: A Hypertext Markup Language Primer
- 4.2 The First Web Page
- 4.3 Hyperlinks & Images
- 4.4 Tables & Lists
- 4.5 Cascading Style Sheets (CSS) & the "Box Model"

Unit 5. Locating Information on the WWW (Chapter 5)

- 5.1 Chapter 5: Locating Information on the Web
- 5.2 Libraries and Online Research

Unit 6. Debugging (Chapter 6)**Unit 7. Encoding Information (Chapter 7)**

- 7.1 Chapter 7: Representing Information Digitally
- 7.2 Data Storage & Encoding

Unit 8. Encoding Multimedia (Chapter 8)

- 8.1 Chapter 8: Representing Multimedia Digitally

Unit 9. Social Implications of IT (Chapter 9)

- 9.1 Chapter 9: Social Implications of IT

Unit 10. Introduction to Computing & Problem Solving (Chapter 12)

- 10.1 Chapter 12: An Introduction to Computing and Problem Solving
- 10.2 An Introduction to Python Programming

Unit 11. Core Objects, Variables, Input & Output (Chapter 13)

- 11.1. Working with Numbers
- 11.2. Working with Strings
- 11.3. Working with Enhanced Output
- 11.4. Working with Lists

Unit 12. Structures That Control Flow (Chapter 14)

- 12.1. Working with Relational Operators & Logical Operators
- 12.2. Working with Decision Structures
- 12.3. Working with the "while" Loop
- 12.4. Working with the "for" Loop

Unit 13. Final Project

CSCI 105 Course Schedule

(tentative)

- Week 1: Syllabus Review and Course Overview
Chapter 1: Defining IT
- Week 2: Chapter 2: The Human-Computer Interface
- Week 3: Chapter 3: The Basics of Networking
Exam 1
- Week 4: Presidents Day
Chapter 3: The Basics of Networking
Chapter 4: HTML
- Week 5: Chapter 4: HTML
- Week 6: Chapter 5: Locating Information on the WWW
Exam 2
- Week 7: Chapter 6: Debugging
Chapter 7: Encoding Information
- Week 8: Chapter 7: Encoding Information
Chapter 8: Encoding Multimedia
- Week 9: Chapter 8: Encoding Multimedia
Exam 3
Chapter 9: Social Implications of IT
- Week 10: Chapter 9: Social Implications of IT
Exam 4
- Week 11: Spring Break
- Week 12: Chapter 12: Introduction to Computing & Problem Solving
Chapter 13: Core Objects, Variables, Input & Output
- Week 13: Chapter 13: Core Objects, Variables, Input & Output
- Week 14: Chapter 13: Core Objects, Variables, Input & Output
Chapter 14: Structures That Control Flow
Assign Final Project
- Week 15: Chapter 14: Structures That Control Flow
- Week 16: Final Project Presentation