Introduction to Information Technology

Instructor Information

Instructor: Mr Joey Liesinger
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Room: A1
Period: TBA
Grade Level: 9-10
Course Prerequisites: None

Course Description

Introduction to Information Technology course is an introduction to information technology areas, pathways, and careers. Throughout the course students will be introduced to topics dealing with computer hardware, software, networking, interactive media, telecommunication, personal technologies, and new and emerging devices and technologies. Introduction to Information Technology will prepare students to understand the different careers in computer technology, prepare students for future course selections, and provide them with the background and knowledge needed to purchase, troubleshoot, and use technology.

Introduction to Information Technology is a one-trimester course for a ½ credit and will meet the computer technology requirement for graduation.

This course is designed as an introductory course and is designed for freshmen and sophomore students. For students in the class of 2010 or later will need to have taken Introduction to Information Technology before taking other technology courses.

Instructional Philosophy

Throughout the course students will be completing projects dealing with the four information technology pathways. Students are expected to complete all assignments. Student assignments should be thorough and meet industry standards. Student work that does not show an exemplary level of competency will be redone by the student to receive credit. Classroom activities include reading, research projects, and problem solving. On some projects students will work in teams but will be expected to complete individual assignments in relation to the team's project. Assessment methods will include written exams, tests, quizzes, projects, oral and written research reports.

Another major learning component of the course will be covered through industry related films, guest speakers, and business tours.

Course Standards

1.1 Students will perform workflow analysis to determine user needs
1.2 Students will analyze existing procedures and technologies
1.3 Students will define business problem to be solved by the application
1.4 Students will access needed information using company and manufacturer's references (e.g. procedural manuals, documentation, standards, work flowcharts)
2.1 Students will demonstrate knowledge and skills of working in a team to reach a specific objective
3.1 Students will identify new IT technologies and assess their potential importance and impact in the future
4.1 Students will explain measurement techniques for increased productivity due to information systems implementation

Major Projects and Assignments
(These projects may change at the discretion of the instruction during the course of the semester)

Introduction to the Tablet PC
As South Dakota moves to more and more one to one computing environments it is important that high school students are introduced to the Tablet PC and its features. This section of the course will focus on the using the features of the Tablet PC as well as the software and hardware involved in it.

Introduction to Web Course Management Tools
As South Dakota students prepare for post-secondary education and one to one computing environments it is important that they are equipped with the ability to navigate, understand, and participate in courses that are delivered through web course management tools as well has having an understanding of synchronous and asynchronous learning.

Computing Fundamentals
This section will focus on a short introduction of computers as well as essential computer skills, using technology to solve problems, as well as all things digital. This section will include discussion of hot topics; include hands on projects, writing about computers, and presentations.

> Presentation/Demonstration Example: Create a presentation discussing email options that are available to you at home and at school. In the presentation discuss the differences in the packages, unique features, and personal preference.

Computer Hardware
Basic introduction to computer hardware components, computer numbering, how the CPU works, making your computers faster and better, as well as future trends. Discussion topics include MP3 compression, CPUs and running shoes, Moore's Law, and high-tech investigations.

> Writing about computers examples: Write a short essay expressing your opinion about wearable computers.

Computer Software, Operating Systems, and File Management
This section of the course will include topics relating to operating systems for desktop, portable, handheld, and cellular phones as well as the future of operating systems.

Students will conduct research on a lawsuit that involved an operating system product
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Networks and the Internet
This section of the course will discuss computer networks, the internet and world wide web, network and internet security, and web browsers.

Group discussions on regulating broadband, rural broadband, and "harmless hacking".

The Internet and Web Applications
This section of the course will discuss different topics and trends dealing with the internet and other web applications. Students will look at the use of multimedia and the web. With the increase of e-commerce site students will look at what e-commerce is and how to implement web-based electronic commerce sites. Through the discussion of web applications students will also look at the trends of music download and new cell phone technologies.

Student projects will include research on the impact of 508 on web design and multimedia applications and privacy breaches within websites.

Information Systems Analysis and Design
Students will look at the information systems and systems development including the types of information systems, responsibility for system development, and the system development life cycle.

Students will investigate soft benefits being used today to attract employees. Find one company that provides at least one of these types of benefits to its employees and determine the services available and the cost to both the employer and employee. Share your findings in a classroom presentation.

Databases
Students will have a better understanding of the use of databases and the creation of databases along with the concepts and characteristics of data, database models and classifications, and databases on the web.

Select two of the API's (ODBC, DAO, ADO, OLE-DB, and JDBC) and research them. Determine what the acronyms stand for, who created the API's, when they are useful, and how they are used. Submit your findings in the form of a paper.

Computer Programming
Students will explore the variety of computer programming languages and types of programming like structured, object-orientated, and aspect-orientated programming. With the development of computer programming students will understand and explore the program development life cycle and tools that will facilitate the program development.

Investigate at least two publicized problems in which a computer was involved (such as erroneous bank transactions, military training incident, privacy breach, or delayed paychecks) and determine if the fault of the incident rests with a human, the computer program, or both. Write a short paper on your findings.

Computers and Society, History, Careers, and Ethics
Students will look at the idea of computer security and privacy, software piracy and digital counterfeiting, computer security and legislation, intellectual property, ethics, and careers that have changed with the introduction of computers. With the idea of how computers have changed in society students will also explore the history of computers.

Write a paper on the current status of spam and spam-related legislation.
Research what options would be available to discard the following 1. a 10-year-old computer that is no longer functioning 2. a 4 year old computer that still works but is too slow for your needs and 3. a used-up toner cartridge for a laser printer.

Reading Assignment: There will be periodic article research and reading from professional journals and other related publications. Students will prepare an oral or written report about the article. Students will also have current event assignments.

Tests and Quizzes: Quizzes are given weekly over the course content. Unit tests are given approximately three to five times per grading period and will include essay and open-response questions.

Assessment Plan
All assignments are designed to show whether students have met the standards for the course. Any unit test, project, lab report, or presentation assessed as "poor quality" will be expected to be REDONE for higher credit.

Distribution of Grading Components
Grades are determined by dividing the points earned by the total number of points available in the grading period. Each major project and assignment commands an approximate percentage of the total points for the grading period as follows:

Reading Assignment/Daily Grades	40%
Major Projects	40%
Tests, Quizzes, and Exams	20%

**Distribution of component percentages is subject to change.*

Description of Grading and Quality Work

Grade	Scale	Description of Work
A	**94-100%**	Consistently demonstrates an exceptional level of quality and effort. Having all work in on time and completed to exceed expectations. Mastery in evaluating, synthesizing, and applying the knowledge and skills of information technology.
B	**87-93.9%**	Consistently demonstrates proficient knowledge with a good effort and quality of work. All assignments are complete and on time. Demonstrates the ability to evaluate, analyze, synthesize and apply the principles of information technology.
C	**78-86.9%**	Demonstrates proficient knowledge and the ability to apply information technology. Work shows average effort. A few assignments may be missed or late.
D	**68-77.9%**	Work shows minimal effort and some assignments are late. Demonstrates a basic understanding of recalling or comprehending information technology.
F	**Below 67.9%**	Understanding is below basic in relation to information technology. Work is of poor quality and does not meet standards or expectations.

Extra Help

Extra help is available from 8-8:15 am and after school until 4 pm. Students may also sign out to come in for help during SRP.

Course Resources

A Guide to Customer Service Skills for the Help Desk Professional. Second Edition. Knapp, D. Course Technology 2004. ISBN# 0-619-21641-7

Computer Literacy BASICS: A Comprehensive Guide to IC3. CEP Inc. Course Technology 2005. ISBN# 0-619-24383-x

Ethics in Information Technology. Second Edition. Reynolds, G. Course Technology 2007. ISBN# 1-4188-3631-1

New Perspectives on Computer Concepts. Tenth Edition. Parsons, J. & Oja, D. Course Technology 2007. ISBN# 1-4239-0610-1

Understanding Computers Today and Tomorrow. 11th Edition. Morley, D. and Parker, C. Course Technology. ISBN# 1-4239-0636-5

Course Movies

Modern Marvels: Computers
The Creation of the Computer
Track Down
Revolution OS
Triumph of the Nerds
Bill Gates: Sultan of Software
Pirates of Silicon Valley
Tell Me Why: Computers and the Internet
e-Dreams
Computer Animation Extravaganza