

Lesson Title: Back to the Future

Career Cluster: Information Technology

Essential Knowledge and Skills: Technology Information Application

Career Concepts: Post Secondary Education

Summary: Students will investigate the role of technology in society, the Information Technology career cluster and pathways, and requirements for entrance into college. Students will assess their current skill level in information technology application. Students will understand the Information Technology career cluster is continually changing.

Course Objectives:

- 1.1 Students will be able to differentiate between career fields, clusters and pathways on the Nebraska Career Education Model.
- 1.3 Students will be able to demonstrate an understanding of the relationship between coursework, school activities, community activities and the Information Technology career cluster.
- 6.2 Students will identify postsecondary options in relationship to the career clusters.

Lesson Objectives:

Students will...

- Differentiate between the Communication and Information Systems career field, the Information Technology career cluster, and the four Information Technology pathways.
- Understand the Essential Knowledge and Skills entitled “Technology Information Applications.”
- Assess their current skill level in Technology Information Application by using the CALS assessment.
- Identify coursework, school activities, and community activities that will build skills in the Information Technology career cluster.
- Identify college entrance requirements to a technical school, community college, and a 4-year college.

Time: Four class periods

Required Materials: “College Entrance Requirements Search” handout, Internet access, www.NebraskaCareerConnections.org website, www.educationquest.org website, www.collegenet.com website, www.myfuture.com website, PowerPoint or other multimedia software

Guest presenters: Invite guest speakers such as a school IT professional, computer repair person, media specialist, high school students in IT classes. Speakers should be sent “Guidelines for Career Guest Speakers” found in the supporting document section.

Content and Teaching Strategies:

Anticipatory Set

Discuss the application of technology information in our world.

Lesson Components

1. Use the Nebraska Career Connections website to gather information on the Information Technology career cluster. Use these talking points with students



- Go to www.NebraskaCareerConnections.org > Career Clusters > Information Technology > Cluster at a Glance >
- Cluster Description: The design, development, support and management of computer hardware, software, multimedia, and systems integration services.
- Discuss the specific Information Technology Applications Knowledge and Skills (www.NebraskaCareerConnections.org > Career Clusters > Information Technology > Cluster Knowledge and Skills):
 - a. Manage personal schedule and contact information.
 - b. Create memos and notes.
 - c. Use email to communicate within and across organizations.
 - d. Use email to share files and documents.
 - e. Search for information and resources.
 - f. Access and evaluate internet resources.
 - g. Prepare simple documents and other business communications.
 - h. Prepare reports and other business communication, integrating graphics and other non-text elements.
 - i. Prepare complex publications.
 - j. Prepare presentations for training, sales, and information sharing.
 - k. Deliver presentations with supporting materials.



2. As a class, develop a set of questions for the class speaker about technology information applications in the workplace and the Information Technology career cluster.

Possible questions:

- a. What is the history of the Information Technology career cluster?
 - b. How is technology used in the workplace?
 - c. What are some career specialties in this career cluster?
 - d. What are some of the most important developments in this field?
 - e. What skills and training should a student interested in this cluster develop?
 - f. What high school classes would you recommend to someone interested in Information Technology careers?
 - g. What school and community activities would you recommend to someone interested in Information Technology careers?
 - h. What kind of training after high school is common for people interested in this cluster?
 - i. What are the employment prospects in this career cluster?
 - j. What is the earning power of someone trained in Information Technology?
 - k. What kind of personal characteristics does a person in Information Technology generally have?
 - l. Who are the employers of Information Technology workers?
 - m. What are the advantages of being in Information Technology? The disadvantages?
 - n. How do you view the future growth of career specialties in the Information Technology career cluster?
 - o. Is there a waiting list for students who wish to study your career in community or four year colleges?
3. Use the Internet to investigate college entrance requirements at nearby schools, including a technical school, community college, and 4-year college. Students should use the “College Entrance Requirements Search” handout to record the major entrance requirements of the institution. Students should pay special attention to information technology requirements, if any

Note to teacher: Use the "College Entrance Requirements Search" handout to help students understand that college websites are set up very differently and a variety of key words will be needed to access the information they seek. Personalize the schools geographically, but give the students an opportunity to search on their own using a search engine or sites like <http://www.educationquest.org> or collegenet.com.

Option: Teach this activity during the Personal Learning Plan Unit.

4. Listen to the guest speaker or visit an Information Technology classroom.

Note to teacher: Give the speaker or classroom teacher the student developed questions, before they visit your classroom.

5. Write a thank you to the guest speaker or classroom expressing what was learned from the speaker/classroom. Send to the speaker/classroom.
6. Identify the career pathways in the Information Technology cluster by creating a PowerPoint or multimedia project on one pathway. Presentations should include: career specialties, levels of education, high school classes that support essential knowledge in this cluster and are required to enter a post-secondary school, school and community activities that build technology skills, and information technology skills needed by everyone in the workplace. This project should be completed in groups with no more than four members each.

Note to teacher: See "Criteria for Information Technology PowerPoint Project" handout for grading.

Additional resources for help in teaching students to create PowerPoint presentations may be found under Pam Wright PPT (located on CD or teachers' resource section) or access atomiclearning.com for a tutorial video on PowerPoint.

7. Group will present PowerPoint to the class. (optional: videotape the PowerPoint)
8. After reviewing Technology Information Application portion of the CALS assessment with students, have students assess their current skill level. (Enter on paper copy or within the Nebraska Career Connections CALS assessment at www.NebraskaCareerConnections.org.)
9. Create a list of career specialties within the cluster and make a list of how technology is used in each specialty.
10. Have students teach mini lessons on Garage Band, iMovie, Excelerate (or other available software) to the class.



Lesson Closure

 Students should respond to the following ideas in their student notebook: What technology advances do you anticipate in the next few years? What would you like to see developed or invented? What would be the name of the career specialty for these new technologies? How will these changes influence the education needed to be successful in future?

Essential Knowledge and Skills Connection

The components of this lesson emphasize **technology information**. Choose one of the following activities to help students connect the lesson with their own development of EKS:

- Write a journal entry, reflecting on one of the EKS used in this lesson. Students could choose a strength or weakness they wish to improve or enhance.
- Students complete a graphic organizer (see Supporting Documents—Teacher Resources) to emphasize EKS used in this lesson connected to home, school, and work.
- Have students use the model to identify EKS used during the activity.

Formative Assessment:

Students will be assessed on their thank you describing what was learned from speaker. Students will also complete a self-evaluation paragraph on PowerPoint project in their student notebook. (*Note to teacher:* a rubric for grading the PowerPoint is included. Additional resources for creating your own rubric may be found at: rubistar.4teachers.org)

College Entrance Requirements Search

Name: _____

Directions: Using the following websites, look at each school and record the major entrance requirements on a separate sheet of paper. Staple papers together before handing in.

1. Technical School: ITT Technical Institute, Omaha, Nebraska

www.itt-tech.edu

>Admissions >Admissions Information

2. Community College: Northeast Community College, Norfolk, Nebraska

www.northeastcollege.com

>Future Students >Admissions

3. 4-Year College: Wayne State College, Wayne, Nebraska

www.wsc.edu

>Prospective Students >Admissions >Prospective Students >Freshmen >Admissions Requirements

4. University: University of Nebraska at Lincoln

www.unl.edu

>Prospective Students >Undergraduate Admissions >Admission Requirements >Freshman

5. School of your choice: _____

Website: _____

Pathway to Entrance Requirements: _____

Criteria for Information Technology PowerPoint Project

Name: _____

Research and produce a PowerPoint to teach your classmates about one pathway in Information Technology. Be prepared to write an evaluation paragraph describing your participation in the group.

Group Member Names (no more than four):

1. Information Technology Pathway (select one):
 - a. Information Support and Services
 - b. Interactive Media
 - c. Network Systems
 - d. Programming and Software Development
2. Slides to include:
 - a. Title of pathway and definition
 - b. Career specialties
 - c. Levels of education typical
 - d. High school classes that support essential knowledge in this pathway and are required to enter a post-secondary school
 - e. School and community activities that build technology skills
 - f. Information technology skills needed by everyone in the workplace
 - g. Names of group members
3. Readable font & size
4. Sound with permission only
5. Appropriate animation
6. Appropriate graphics
7. Phrases only! No complete sentences.
8. Grammatically correct, spell check

After the PowerPoint has been presented to the class, write a paragraph telling about your participation within the group. Evaluate your group and identify the grade you feel the group deserves. Give two supporting statements that demonstrate the grade is fair.

Option: Have the students make a prediction about how the requirements for this occupation may change in the future.