CURRICULUM COMMITTEE CHECKLIST

NAME OF PROGRAM: Computer Careers (COMP1120 – Foundations of Computing) Date: 04/13/12

Step 1 Reviewed change at division meeting. [YES] [NO] X

Step 2 Presented as informational item at Division Chair Meeting(s) and checked if it affects other departments. Like programs must meet with Division Chairs on all affected campuses (North Mankato and Faribault). [YES] [NO] X

Division Chair’s signature

Step 3 Instructional Dean reviewed and indicated need for Curriculum Committee approval. [YES] [NO] X

Instructional Dean’s signature

Step 4 Advisory Committee approval indicated in meeting minutes if necessary. Minutes provided to Curriculum Committee. [YES] [NO] X

Step 5 Curriculum Committee made recommendations (changes, additional approvals, etc.). If no, skip to Step 7. [YES] [NO]

Step 6 Committee’s recommendations completed. (Skip if not applicable.) [YES] [NO]

Step 7 Curriculum Committee approved. [YES] [NO] X

Curriculum Committee Chair’s signature

Step 8 Minutes and necessary materials provided to VP of Academic Affairs. [YES] [NO]

Step 9 Vice President of Academic Affairs approved. [YES] [NO] 4/13/12

Vice President of Academic Affairs’ signature

Step 10 New Course Maximum Enrollment to Shared Governance. [YES] [NO]

Step 11 President’s approval for all changes requiring MnSCU approval. [YES] [NO]

President’s signature
Appendix B

**New Course or Course Change Proposal Form**

<table>
<thead>
<tr>
<th>Date of Proposal:</th>
<th>April 13, 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author:</td>
<td>Linda Anderson &amp; Tom Edwards</td>
</tr>
<tr>
<td>Proposal Type:</td>
<td>*New Course</td>
</tr>
<tr>
<td>Contact for the Course:</td>
<td>Linda Anderson or Tom Edwards</td>
</tr>
<tr>
<td>Course Designator, Number and Title (i.e.: ACCT 1800, Business Law):</td>
<td>COMP1120 – Foundations of Computing</td>
</tr>
<tr>
<td>Number of Credits:</td>
<td>4</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>None</td>
</tr>
</tbody>
</table>

**Course Description:**

This course introduces the student to the world of information systems. Students will explore the history of computing, career opportunities in information technology, and computer concepts as they apply in a business environment. Topics to be covered include an introduction to basic web-page development, command-line interfaces, file management principles, computer numbering systems, and database principles. Students will also receive initial exposure to the IBM mid-range computer platform and computer programming and algorithms through the use of problem analysis, pseudo-code and entry level programming languages.

<table>
<thead>
<tr>
<th>Grading Method:</th>
<th>Grade YES</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduling:</td>
<td>Fall X</td>
<td>Spring X</td>
</tr>
<tr>
<td>Instructional Type:</td>
<td>Lecture X</td>
<td>Lab</td>
</tr>
</tbody>
</table>

*Class Maximum: (For New Courses Only) / All Unlimited faculty members of a program or discipline must sign.*

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Faculty Signature</th>
<th>Class Max</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Dean's Name</th>
<th>Dean's Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

If there is not enough space provided, please use the back of this form for additional signatures or click on a row with the right button of the mouse, select insert and then select insert rows below to add rows to the table.

<table>
<thead>
<tr>
<th>Is this Course Proposed as a Liberal Arts Course:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?

<table>
<thead>
<tr>
<th>Is This Course a Requirement/Elective for a Specific Program or Programs?</th>
<th>Yes X</th>
<th>No</th>
</tr>
</thead>
</table>

If Yes, Which Program(s)? Information Systems (AAS & Diploma)

<table>
<thead>
<tr>
<th>Networking Services (AAS &amp; Diploma)</th>
</tr>
</thead>
</table>

Describe What is Changing/Being Added, and the Rationale:

Description & 3-4 Competencies -- To update the course’s content.

What Impact Will This New Course or Change Have on Other Programs or Areas? None

➤ Attach Common Course Outline to this Form.
Foundations of Computing
Course Outcome Summary

Course Information
Organization: South Central College
Developers: Linda Anderson & Tom Edwards
Development Date: 5/28/2008
Course Number: COMP1120
Potential Hours of Instruction: 64
Total Credits: 4

Description
This course introduces the student to the world of information systems. Students will explore the history of computing, career opportunities in information technology, and computer concepts as they apply in a business environment. Topics to be covered include an introduction to basic web-page development, command-line interfaces, file management principles, computer numbering systems, and database principles. Students will also receive initial exposure to the IBM mid-range computer platform and computer programming and algorithms through the use of problem analysis, pseudo-code and entry level programming languages. (Prerequisites: None)

Types of Instruction

<table>
<thead>
<tr>
<th>Instruction Type</th>
<th>Contact Hours</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>64</td>
<td>4</td>
</tr>
</tbody>
</table>

Prerequisites
None

Exit Learning Outcomes

Core Abilities
A. Foundations and skills for lifelong learning
B. Teamwork and problem-solving
C. Analysis and inquiry
D. Critical and creative thinking
E. Written and oral communications

Competencies
1. Examine the role of Information Systems in an organization.
   Learning Objectives
   a. Explore the history of computing.
   b. Describe the organization of an Information Systems department.
   c. Explore career options available to the I.S. professional.
2. Identify hardware and software platforms used in business
   Learning Objectives
a. Explore various hardware platforms used in an organization (mainframes, mid-range, networks, etc.).
b. List various software categories found in an organization (Decision Support, Enterprise Resource Planning [ERP], Customer Relationship Management [CRM])
c. Examine enterprise computing
d. Differentiate between Operating Systems and Applications Software
e. Examine issues of software licenses and open source software

3. **Explore emerging technologies in information technology**
   **Learning Objectives**
   a. Describe different aspects of cloud computing
   b. Discuss mobile computing technologies
   c. Examine green computing concepts

4. **Create basic web pages**
   **Learning Objectives**
   a. Be aware of the essential elements and tags in HTML
   b. Work with a basic HTML text editor
   c. Incorporate list, image, and link elements into a web page
   d. Use CSS to add styling to a web page

5. **Work with file management commands**
   **Learning Objectives**
   a. Create a folder structure
   b. Organize files within the folder structure
   c. Copy, move, delete, and rename files and folders
   d. Utilize both GUI and command line interfaces

6. **Work with numbering systems**
   **Learning Objectives**
   a. Demonstrate an understanding of the binary representation of data
   b. Perform conversions between numbering systems (binary, octal, and hexadecimal)

7. **Examine data management in information systems**
   **Learning Objectives**
   a. Discuss the hierarchy of data
   b. Compare Database Management Systems
   c. Describe the use of data warehouses and data mining in an organization

8. **Explore ethical issues in computing**
   **Learning Objectives**
   a. Examine issues relating to data privacy
   b. Examine issues relating to computer crime

9. **Examine iSeries User Interfaces**
   **Learning Objectives**
   a. Sign on to the iSeries
   b. Execute iSeries functions through the menu system
   c. Use the online help facility
   d. Utilize command function keys

10. **Examine iSeries Hardware & Software Components**
    **Learning Objectives**
a. Identify system hardware components
b. Identify application software products

11. **Create iSeries Libraries & Objects**
   **Learning Objectives**
   a. Identify object types
   b. Work with library objects
   c. Manipulate library lists
   d. Work with User Profiles

12. **Examine Control Language (CL) commands**
   **Learning Objectives**
   a. Use CL command syntax
   b. Work with basic CL commands

13. **Create Source Physical Files**
   **Learning Objectives**
   a. Use the SEU utility
   b. Build SEU source members
   c. Use SEU line & prompt commands
   d. Use the PDM utility

14. **Use the Query/400 Utility**
   **Learning Objectives**
   a. Build query objects
   b. Select & sort records
   c. Create a query result field
   d. Specify report format options

15. **Interact with a Linux operating system using a text interface**
   **Learning Objectives**
   a. Connect to a Linux-based server using a telnet or ssh terminal emulator.
   b. Log in to and log out of a Linux-based server using a text interface.
   c. Connect to a Linux-based server using an ftp or sftp client.
   d. Transfer files to and from a server using a text-based ftp or sftp client.

16. **Work with Linux file systems**
   **Learning Objectives**
   a. Describe the structure of Linux file systems in common use today.
   b. Navigate among directories in a typical Linux file system using the cd command.
   c. Create and remove directories using common Linux utility programs and shell commands.
   d. View attributes of directories using common Linux utility programs and shell commands.

17. **Utilize common Linux text editors to create and edit standard Linux data files.**
   **Learning Objectives**
   a. Use modal editors such as vi or vim to create and edit standard Linux data files.
   b. Use menu-oriented editors such as pico or nano to create and edit standard Linux data files.

18. **Employ common Linux file manipulation commands and utility programs.**
   **Learning Objectives**
   a. Copy files using the cp command.
b. Move and rename files using the mv command.
c. Remove files using the rm command.
d. View a file's ownership and security attributes using the ls program.
e. Modify a file's ownership using the chown and chgrp programs.
f. Modify a file's security attributes using the chmod program.

19. Discuss types and usage of common programming languages.
   Learning Objectives
   a. Summarize the evolution of programming languages
   b. Identify distinguishing characteristics of those programming languages in common use today
   c. Compare the advantages and disadvantages of procedural, object-oriented, function-

20. Employ algorithms to solve problems
   Learning Objectives
   a. Discuss why algorithms are useful in problem solving
   b. List the recommended steps in solving a problem
   c. Create algorithms for solving simple problems
   d. Use pseudo-code to implement an algorithm
   e. Analyze an algorithm's correctness and efficiency

21. Discuss syntax and semantics of common programming languages
   Learning Objectives
   a. Explain the use of variables, types, expressions, and assignments
   b. List the primary conditional and iterative control structures
   c. Choose appropriate programming constructs for a given task
   d. Write and test a program that implements a simple algorithm

22. Employ event-driven programming techniques
   Learning Objectives
   a. Explain the concept of event-driven programming
   b. Identify which programming languages in common use today support events
   c. Write and test simple a program that reacts to simple user-generated events