

3. Maintain Computer hardware in Computer Science. This includes ongoing planning, installation, upgrading, repairing, and replacing of computers, peripherals, and network cabling, as well as documenting replacement schedules and the accompanying cost analysis for lab, staff and faculty equipment

- Maintain an ongoing replacement schedule and consult with clientele regarding emerging technologies, such as parallel systems, which may affect course work, labs, and research
- Provide hardware recommendations and pricing options to clientele
- Install new hardware (including new network structure/cluster) and upgrade existing hardware as needed
- Upgrade servers, as necessary, during non-class times.
- Arrange for equipment repairs through the campus repair channel, or external entity if need be

Performance Indicator:

Computer Equipment is functioning properly and is kept up to date (within department budget constraints).

Priority: A

Essential

Percent of Time: 10%

4. Evaluate, install, and maintain application software on Computer Science computers. This includes but is not limited to databases, programming applications, communications software, and internet applications.

- Evaluate commercial, shareware, and freeware applications
- Provide recommendations to clientele about cost, manageability, and appropriateness of software for task
- Install software as needed (within the legal and ethical guidelines set down by the University) and configure as needed for office or lab use

Performance Indicator:

Application software is installed and configured for use.

Priority: A

Essential

Percent of Time: 10%

5. Manage and schedule Computer Science labs

- Manage Work Study and Student Help budgets
- Recruit, hire, train, and supervise Lab Technicians
- Schedule labs and equipment for classes and advise faculty on possible scheduling conflicts during course scheduling process
- Purchase parts and supplies as required for labs
- Install, upgrade, and maintain software/hardware installations
- Prep classroom and labs for Fall, including moving equipment and disassembling computer desks for floor waxing and room maintenance, and then reassembling rooms.

Performance Indicators:

Labs are staffed and maintained in an orderly fashion. Labs are prepared and have the needed hardware and software required for classes.

Priority: A

Essential

Percent of Time: 10%

6. Serve as liaison with Information Services and the rest of the University community in computing related matters

- Serve as focal point for contact with Computer Information Services/Technical Support Center
- Advise faculty of changes in the campus computing environment and possible ramifications to curriculum (changes in network protocols, "standards" for hardware and software, availability of additional resources or removal of existing resources, laptop program changes, and anything else which may affect curriculum)
- Advise faculty of ramifications of curriculum changes on lab facilities and management issues
- Coordinate computing efforts to maintain consistency and integration with the campus computing environment
- Serve on Committees where appropriate

Performance Indicators:

Faculty members are kept apprised of changes and CS Department needs are conveyed to appropriate entities.

Priority: A

Essential

Percent of Time: 5%

7. Serve as technical resource consultant to faculty, staff and students as needed for course work preparation, grant writing, research projects, student mentorship projects, etc.

- Provide information pertaining to hardware, software, operating systems, application software, and network communications to clientele
- Provide cost estimates, inventory statistics, and other needed information for grant writing, research projects, etc.
- Provide information and technical expertise for research projects
- Update general knowledge related to system administration (learning new systems and applications, preparing new processes, etc.)
- Set up new labs/systems to support faculty research and classes.
- Mentor students, providing information, technical expertise, assistance configuring hardware and software, and other assistance needed during research/mentoring projects

Performance Indicators:

Assistance and information is provided as needed

Priority: A

Secondary

Percent of Time: 20%

8. Serve as the system administrator for the CS Web Server

- Install and configure the various server components, including application, web backend and database servers
- Coordinate integration of CS web server with campus system
- Maintain security and version control of all server components
- Serve as first contact for CS web issues.

Performance Indicators:

Assistance and information is provided as needed

Priority: A

Secondary

Percent of Time: 10%

9. Purchase and inventory approved equipment and supplies

- Secure pricing information (quotes, ads, bids, etc.)
- Initiate request for Purchase Order
- Receive purchased items from campus receiving
- Inventory purchased items (coordinate inventory with campus inventory system)

Performance Indicators:

Items are purchased and tracked. Appropriate inventory reports are provided when needed

Priority: B

Secondary

Percent of Time: 5%

KNOWLEDGES, SKILLS, AND ABILITIES

Minimum Qualifications *(expected to have to enter job)*

- Degree in Computer Science, MIS or related field
- 2-3 years of recent systems administration experience, requiring detailed knowledge of multiple Workstation Operating Systems, Network Operating Systems, and LAN protocols.
- Knowledge of Unix (Linux), macOS, Windows, TCP/IP, FTP, and SSH.
- Knowledge of web server technology, including database and server-side scripting languages.
- This person must be able to, and prepared to, explore new hardware and software technologies as they emerge.
- The ability to coordinate large scale changes in operating systems platforms, provide instruction and supervision to subordinates to accomplish such large scale changes, and provide assistance and documentation to faculty to ensure that such changes cause minimal disruption to the classroom and lab environments is a

must.

- This person must be capable of managing large-scale projects while maintaining current service.
- Ability to effectively communicate verbally and in writing.
- Ability to work independently and collaborate with students, faculty, staff and other stakeholders.
- A firm understanding of how changes in the campus computing environment and facilities will affect the department

Preferred Qualifications *(desired but not expected to have to enter job)*

- System administration experience with distributed systems
- Considerable knowledge of department and campus policies, procedures, and programs

RELATIONSHIPS

This Position Reports to *(provide class title, not person's name):* Chairperson, Computer Science Department

Supervises *(classification title; FTE; # in position; note if providing work direction only)*

| Classification Title | FTE | # in Position | Providing work direction only |
|---|-----|---------------|--|
| Student Workers (Work Study/Student Help) | | 8-12 | <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Type an X in box)</i> |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Type an X in box)</i> |

Internal and External Clientele and Purpose of Contact *(the most significant job related contacts)*

Chairperson, Computer Science Department, Faculty (10-15), Staff (1) and Students in the Computer Science Department.

The person in this position must be capable of evaluating, installing and maintaining a variety of Network Operating systems, hardware and software with minimal supervision or support, thus removing the burden of hardware and software management from faculty. S/he must be able to investigate and evaluate newly emerging computing technology and provide insight on how these can be integrated into the current campus network environment. Close communications must be maintained with departmental faculty as well as with Computer Information Services to ensure tight integration of the department LANs with campus-wide facilities. To this goal, this person will attend bi-weekly department meeting and be prepared to give reports on the current status of projects and/or computing resources – both departmental and campus wide.

It is essential that this person keep abreast of campus computing efforts and is capable of analyzing the impact of facility changes on curriculum and the computing environment at both the department and campus wide levels. Such things as the Laptop University efforts have a potentially high impact on the departmental computing efforts. Therefore, it is imperative that this person attends campus meetings that pertain to computing resources. As a liaison of the department, this person must ensure that Computer Science can continue to closely integrate their systems with the rest of the campus network. S/he will also serve on committees that develop policies and standards for the campus network.

PROBLEM SOLVING *(most difficult types of problems to resolve and consequence of error/non-resolution)*

The abilities to diagnose and trouble-shoot network communications, hardware, and software problems – both at the local system level and the campus-wide level- are essential. This includes the use of diagnostic tools such as TDRs, LAN Protocol Analyzers sand performance monitoring tools

FREEDOM TO ACT

Budget *(\$ authority and/or type of impact on budget, i.e., signatory, manage, monitor, recommend)*

n/a

Decision(s) Position Makes and Decision(s) Referred to Higher Authority

The person in this position will have the responsibility for maintaining a working computing environment for Computer Science. It is assumed that the person will be capable of independent decision-making and will be capable of maintaining the computers and the computer labs without direct supervision. This person will be responsible for the staffing, training, and supervision of lab technicians and technical assistants, and be expected to utilize those workers to accomplish larger or more complex tasks than could be accomplished alone.

All employees must comply with department and institution procedures and policies, MnSCU policies and procedures, as well as local, state and federal laws, regulations, guidelines and business and industry standards.