

19. Functions/Tasks		
Frequency	Function/ Task No.	<b>Major Functions and Tasks</b>
% Time and W/M/D/Q on each Task		(List the functions and tasks in descending order of importance starting with the essential functions. Number each function and write ESSENTIAL after each essential function.)
20%	I	<b><u>HARDWARE SUPPORT (ESSENTIAL)</u></b>
D	1	<b>Install and maintain all computer equipment in the Department.</b> Equipment includes Sun minicomputers, MS-DOS PCs, Apple, Laser printers, Ethernet and LocalTalk networks, fax machines, phones, flatbed scanners, scantron, and other special peripherals, and remote equipment.
W	2	<b>Troubleshoot and diagnose hardware problems in the department.</b> Perform minor maintenance and repairs. Arrange and oversee major repairs with external agencies.
M	3	<b>Negotiate and document hardware and software maintenance contracts.</b>
W	4	<b>Planning</b> Assist with a plan-in-progress to upgrade a combined internetwork of coaxial ethernet, localtalk, and PhoneNet into one Twisted-Pair ethernet that supports AppleTalk, TCP/IP, NetBEUI, and other protocols. Aid in the design and realization of two or more Graduate Computing Labs to support Math Computing by students, faculty, and staff. Including Hardware specification, subnetworking, etc.
W	5	<b>Provide general technical and planning advice</b> Regarding hardware purchase needs in the areas of instruction, research, and administration. Investigate, analyze and present acquisition options to maximize computing efficiency.
25%	II	<b><u>SYSTEM SUPPORT (ESSENTIAL)</u></b>
D	6	<b>System Administrator</b> Install and test system software updates to ensure compliance with existing applications software. Write custom patch software at a system level, e.g. input-output routines to be used with utility systems, loading routines, general purpose conversion and formatting routines, etc. Provide network, OS, software, and hardware support for approximately 140 mini and microcomputers in a LAN consisting of: <b>100 Macintoshes</b> Networked with LocalTalk/PhonNet, arranged into multiple zones using Kinetics FastPath boxes, KIP/CAP, and MacTCP for internetworking. <b>20 SunOS workstations and File Servers</b> (4.1.3, Solaris 2.3), sharing NFS, PCNFS, and CAP services. <b>20 IBM compatibles</b> Running a variety of OS's including DOS, NT Server, FreeBSD, and LinuX. <b>25 Networked Printers</b> including HP LaserJets, Apple LaserWriters, and other printers networked via CAP, AppleTalk, Ethernet, etc.

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D	7	<p><b>Security</b></p> <p>Create and enforce a security policy that effectively balances the need network security and the desire among academic users for an open, collaborative computing environment.</p> <p>Act as a DSA (Data Security Administrator) for the Math Department. Train DSE users on access procedures. Handle questions relating to DSE access and Data. Report and deal appropriately with all abuses of access or data use within the Department.</p> <p>Prevent unauthorized access/theft of departmental computing resources.</p> <p>Continue an ongoing campaign to improve physical and logical security of the hardware, software, and data of the department and its computer users.</p>
D	8	<p><b>Backup Administrator</b></p> <p>Develop and maintain procedures/software/hardware for nightly networked backup of all departmental servers and workstations-- including appropriate solutions for UNIX, PC, and Macintosh machines.</p> <p>Restore files when requested by users or as necessary.</p> <p>Present operation requires familiarity with UNIX dump, restore, csh scripting, and PERL programming, plus public-domain "macdump" software for Macintosh backups.</p>
W	9	<p><b>Networked Information Services</b></p> <p>Maintain existing Information Services for the Math department, Including SMTP e-mail, list service, file distribution via File Transfer Protocol, and World-Wide-Web service.</p> <p>Maintain existing Information client software for the Math Department, including archie, ftp, gopher, usenet news, wais, and web clients.</p> <p>Investigate and implement new information services when they prove useful in the research community.</p> <p>Promote the uses of such information systems as they apply to teaching, research, and study of Mathematics.</p>
W	10	<p><b>Departmental Computing Liaison</b></p> <p>Represent the interests of the Math Department on campuswide computing committees and electronic forums.</p> <p>Relay requests for service/help from Faculty members when their workstations are managed by any external agency.</p> <p>Report on internal and external issues to the MSO and Faculty Computing Committee.</p>

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25%	III	<b>SOFTWARE SUPPORT (ESSENTIAL)</b>
D	11	<p><b>Software Consulting</b></p> <p>Assist faculty, staff, and graduate students in the use of various software programs including technical word processing, spreadsheet, database, statistical packages, and symbolic manipulation applications. Here are some of the most popular end-user packages in the department:</p> <ul style="list-style-type: none"> <li>FileMaker Pro (Macintosh)</li> <li>T<small>E</small>X<small>T</small>ures (Macintosh)</li> <li>Mathematica (SunOS, Macintosh)</li> <li>Matlab (SunOS)</li> <li>Maple (PC, Macintosh, SunOS)</li> <li>MS Word (Macintosh)</li> <li>MS Excel (Macintosh)</li> <li>TN3270 (Macintosh)</li> <li>NCSA Telnet (Macintosh)</li> <li>Fetch (Macintosh)</li> <li>Netscape (PC, Macintosh, SunOS)</li> <li>GCC (SunOS)</li> <li>Eudora (Macintosh)</li> <li>Pine (UNIX)</li> <li>Elm (UNIX)</li> <li>Emacs (UNIX)</li> <li>T<small>E</small>X (UNIX)</li> </ul>
W	12	<p><b>Evaluation</b></p> <p>Evaluate software packages for possible use to upgrade current applications. Install and test all new software.</p>
W	13	<p><b>Automation</b></p> <p>Research and implement means to automate software distribution, upgrade, and repair across the network.</p> <p>Automate client-server retrieval of Administrative Data from MVS-DB/2 IBM Mainframe or Sybase Server (DARWIN).</p>
W	14	<p><b>Software Librarian</b></p> <p>Maintain library of all software media, licenses, and documentation. Maintain calendar of software upgrades, patches, and pending expiration dates. Maintain user-accessible electronic library of all site-licensed or public domain software commonly used in the department or at home by Faculty and Staff.</p>
W	15	<p><b>Documentation</b></p> <p>Organize and document procedures for software programs. Assist in selecting appropriate software and creating initial setup and report formats for administrative uses.</p>

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25%	IV	<p><b><u>USER SERVICES</u></b> (ESSENTIAL)</p> <p><b>Help Desk, Supervision</b> Design, implement, and supervise a 'help desk' staffed by student workers, to effectively rank and respond to requests for computing help from faculty, students, and staff. Oversee Hiring, Training, Scheduling, etc.</p> <p><b>Provide supervision/guidance of two Programmer/Analyst I staff members.</b></p> <p><b>User Account Management</b> Create and update user and login accounts as required. Maintain disk space allocation and monitor disk reserves. Regularly remove accounts of expired users (quarterly visitor accounts) to improve site security.</p> <p><b>Lab Management</b> Manage an existing eight workstation lab Participate in the planning, installation, and upkeep of at least 1 additional lab. Promote productive use of the Math Department's computing Lab facilities by graduate students and instructors.</p>
D	16	
W	17	
W	18	
5%	V	<p><b><u>PROFESSIONAL DEVELOPMENT</u></b></p> <p>Increase Depth of Knowledge in areas of expertise. Explore and develop new areas of expertise. May include individual study or participation in classes, conferences, or seminars relating to Network Administration or Computing in Mathematics.</p>
Q	19	