



# **Virtual Help Desk**

Document Information



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### Overview

Capstone activities, projects, and/or courses are typically designed as synthesis, or culminating, experiences. They may represent a final integration of expected student skills and knowledge, or a comprehensive application of skills and knowledge in a new situation.

This *Virtual Help Desk* module was designed by Julie Jackson, of Edmonds Community College (Lynnwood, Washington) as the capstone course *Introduction to Software Support*. She reviewed the first year courses in her program (an evening certificate program in Technical Support), identified the gaps in the curriculum (based on the Technical Support Skill Standards from *Building a Foundation for Tomorrow, Skill Standards for Information Technology*), and redesigned the existing course to address those gaps.

Part of the redesign process involved identifying places in the curriculum for improvement or change, converting a traditional course to a competency-based framework, and modularizing the key assignments and assessments. The resulting course has become the capstone experience of a *Virtual Help Desk*. All of the skill gaps are identified in this course. Students are given direct exposure and experience with areas of industry-specific tasks and functions previously not addressed in the curriculum.

With the list of the gaps in mind (“Tasks Not Taught”), another list of general topics and ways to use them in assignments was developed. Strategies were then created for how to organize (sequence) the assignments and assess the students. A new course framework emerged, the Virtual Help Desk.

As Ms. Jackson explains:

*Students work in teams to develop and run their own help desk. Each team is comprised of students with a common interest in some area of support. In addition to being a help desk specialist, each student is also a customer and as such is assigned to bring in at least one problem for each team’s area of specialization. This not only helps to generate the problems the teams work on during the quarter, it also allows the student to gain a ‘customer’ perspective.*

As a first step towards re-visioning and revising the entire program, the capstone pilot has become a model for competency-based conversion and the integration of skill standards within the CIS department.

Ms. Jackson noted the following changes in student learning and results of the curriculum development capstone pilot:

- New skills (based on industry requirements) acquired by students
- A less teacher-dependent environment with most students gaining valuable classroom time to learn independently
- A new student understanding of where the assignments were coming from and where they were going to
- A team environment (Help Desk teams) which was more successful than previous team “experiments”

- Understanding and appreciation from the students. Students received a copy of the Technical Support Representative career cluster so they *knew* the course was designed to help them get the best jobs possible. They could read about the skills required in industry and make a connection between the skills and the assignments in class
- With student feedback and further fine tuning, the course can be revised to the point that it will be a cornerstone of certificate and degree programs

The following course materials (description, syllabus, nine modular assignments directly correlated to the development of the functions and tasks expected in industry, and sample assessments) are reproduced here, along with a list of learner outcomes, key competencies, and performance indicators (from the skill standards document). These materials represent the infusion of content and process, individual and team learning, and self-, peer-, and instructor forms of assessment.

### Old Course Description

- Advanced topics in application software and support
- Development of problem solving skills used in supporting the non-programming user
- Emphasis is on software troubleshooting and support
- Includes creation of a multi-product software system

### Proposed New Course Description

- Development of Technical Support Representative skills expected in industry
- Includes analyzing, troubleshooting and solving software problems, developing customer service skills, creating installation and maintenance plans
- Students develop and administer their own help desk
- Includes an introduction to HTML

### Syllabus CIS 162: Introduction to Software Support

#### Texts:

1. *Running an Effective Help Desk* by Barbara Czegel
2. *Creating HTML Pages* by Shelly & Cashman

#### Materials:

- 2 3.5 inch high density floppy disks

#### Evaluation:

The grading will be on a strict percentage basis given the total number of points available for the class. See the *Grade Table* below for the grade point equivalents. Late assignments will be 10 points off for each class meeting that they are late.

**Grade Table**

Number	Description	Points Each	Total
2	In-class team assignments	10	20
6	HTML Projects	25	150
9	Units	20-50	500
2	Ratings from Units 8 & (	50	100
1	Participation Rating by Instructor*	50	50
	<b>Total course points available</b>		<b>820</b>

\*The participation rating by instructor will be based on attendance, observation of team activity and on the task sheets included with the team assignments. Be there for your team! Those who don't participate will be graded accordingly.

**Course Objectives:**

By the end of this course, students will:

1. Have the ability to create HTML documents
2. Be able to setup defaults and troubleshoot the installation of Microsoft Windows 95 and MS Office 97
3. Setup and run an effective help desk
4. Effectively utilize a knowledge base
5. Create and implement maintenance, installation, and backup plans
6. Facilitate customer service and support
7. Educate and train others
8. Manage tasks and projects
9. Work in (and manage) teams
10. Solve a frustrated user's software problem

**Basic Education Requirements (College-wide Abilities):**

While achieving the course objectives above, students will be applying and developing the following basic education requirements:

- Written and oral communications (through writing assignments and peer critiques)
- Critical thinking and problem solving (through methods used to diagnose and solve users problems)
- Group interaction (through team assignments)

**Grading Table:**

Grade Points						Letter Grades				
4.0	95		2.9	84		1.8	73		A	4.0 - 3.9
3.9	94		2.8	83		1.7	72		A-	3.8 - 3.5
3.8	93		2.7	82		1.6	71		B+	3.4 - 3.2
3.7	92		2.6	81		1.5	70		B	3.1 - 2.9
3.6	91		2.5	80		1.4	69		B-	2.8 - 2.5
3.5	90		2.4	79		1.4	68		C+	2.4 - 2.2
3.4	89		2.3	78		1.4	67		C	2.1 - 1.9
3.3	88		2.2	77		1.3	66		C-	1.8 - 1.5
3.2	87		2.1	76		1.2	65		D+	1.4 - 1.2
3.1	86		2.0	75		1.1	64		D	1.1 - 0.9
3.0	85		1.9	74		1.0	63		D-	0.8 - 0.7



**LEARNER PROGRAM OUTCOMES, KEY COMPETENCIES  
AND PERFORMANCE INDICATORS**

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Analysis

#### Tasks from Skill Standards Document

- Identify customer requirements
- Identify resources and risks
- Evaluate present data and system configuration
- Formulate a plan, directions or options
- Communicate and document status

#### Learner Program Outcomes

- Demonstrate the ability to identify requirements, and to interpret and evaluate the requirements
- Demonstrate the ability to evaluate a system configuration
- Demonstrate the ability to understand constraints, generate alternatives, consider risks, formulate a plan and evaluate options
- Demonstrate the ability to analyze the process and continuously improve the outcome

#### Key Competencies

*Demonstrate the ability to:*

- Identify focus and general parameters of task or project
- Gather data to identify project requirements or problem, resources and risks
- Evaluate requirements and identify missing or conflicting information
- Evaluate a computer system and its configuration
- Analyze and synthesize information and make recommendations
- Identify time, technology and resource constraints, in general terms
- Develop risk analysis and demonstrate flexibility in adopting alternative strategies
- Prepare a cost/benefit estimate for the project or task
- Establish measurable performance requirements and test strategies
- Determine whether further analysis is necessary and support recommendations
- Develop feedback strategies to monitor and improve the overall process of analysis
- Communicate and document information and recommendations

#### Performance Indicators — Proficiency level

*Demonstrate the ability to:*

- Identify relevant sources of information
- Gather data and extract relevant information
- Analyze and synthesize the information
- Identify missing information and find sources to complete requirement set
- Identify conflicting information and resolve conflicts with customers, if necessary
- Validate information for accuracy and completeness
- Develop an outline of the task, project constraints and potential risks
- Ask questions to clarify procedure
- Develop measurable performance requirements
- Recommend test strategies that meet needs and resources
- Summarize, communicate and document information

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Performance Indicators — Expert level

*Demonstrate the ability to:*

- Present alternative strategies and make recommendations
- Determine need for further analysis and make recommendations
- Develop a cost/benefit estimate of different possible strategies
- Develop feedback strategies to monitor the process of analysis
- Evaluate the process of analysis and its effectiveness, and make recommendations for improvement
- Formulate a plan according to resource needs and constraints

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Documentation

#### Tasks from Skill Standards Document

- Query existing knowledge base effectively
- Record and update situation details
- Write problem solutions in the knowledge base
- Prepare a customer oriented problem/solution summary

#### Learner Outcomes

- Demonstrate the ability to effectively use a knowledge base and a call-tracking database
- Demonstrate the ability to accurately document computer problems and write solutions

#### Key Competencies

*Demonstrate the ability to:*

- Query an existing knowledge base effectively
- Use clear, specific and grammatically correct writing to document problems and resolutions in a knowledge base or call-tracking database
- Write customer oriented summaries of problems and solutions
- Prepare written materials that accurately convey specific technical problems, their related issues, and their solutions or workarounds
- Adjust writing style to suit different technical levels and different audiences

#### Performance Indicators — Proficiency Level

*Demonstrate the ability to:*

- Explain the purpose of a knowledge base in Technical Support
- Explain the purpose of a call-tracking database in Technical Support
- Use proper key words to successfully search a knowledge base
- Translate technical jargon and concepts into everyday English
- Present information in a well organized pattern
- Summarize, paraphrase and synthesize information
- Interpret and summarize research information culled from multiple sources
- Use proper grammar and appropriate style and level of terminology sophistication
- Add clear, concise problems and solutions into knowledge bases

#### Performance Indicators — Expert level

*Demonstrate the ability to:*

- Use appropriate language, style and format based on the needs of the project and audience
- Integrate multiple items of information and reconcile conflicting information
- Analyze and summarize group/individual responses

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Education/Training Others

#### Tasks from Skill Standards Document

- Identify customer requirements for information or training
- Interpret and evaluate requirements
- Define scope of work to meet customers' learning requirements
- Identify resources
- Identify content/procedures
- Organize and present information/training
- Evaluate effectiveness of training

#### Learner Outcomes

- Demonstrate the ability to identify a customer's training needs and to create and present organized training sessions that meet different learning styles
- Demonstrate the ability to evaluate the effectiveness of a training session

#### Key Competencies

*Demonstrate the ability to:*

- Identify customer's training needs
- Design training that meets the customers needs
- Deliver effective training to customers
- Recognize the customer's level of experience and expertise, and tailor training and communication accordingly
- Communicate effectively with a wide range of audiences in a wide range of technical contexts
- Evaluate a training session

#### Performance Indicators - Proficiency Level

*Demonstrate the ability to:*

- Identify areas of weakness in knowledge
- Be courteous and professional when communicating with others
- Develop a training session that includes content that is accurate and complete
- Organize information into a sequence and a logical flow
- Develop an outline
- Tailor the complexity and amount of information delivered to the needs and expertise of the customers
- Develop materials such as tests and questionnaires that evaluate the strengths and weaknesses of a training session
- Follow-up with customers to evaluate the effectiveness of training over a period of time

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Performance Indicators - Expert Level

*Demonstrate the ability to:*

- Explain and recognize different communication and learning styles
- Evaluate trends in customer's needs for training or customers complaints
- Effectively use different training techniques
- Prepare and deliver professional presentations that are appropriate to purpose and intended audience
- Setup presentation equipment and train others in the use of presentation equipment
- Prepare communication pieces for audiences with various levels of technical expertise
- Balance visual and verbal elements in technical presentations
- Use the evaluations to continually improve upon the training sessions

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Facilitation/Customer Service

#### Tasks from Skill Standards Document

- Manage working relationships with customers within support boundaries
- Negotiate Services
- Manage multiple customer requirements
- Act as a liaison between groups

#### Learner Program Outcomes

- Demonstrate the ability to effectively listen and ask critical questions to identify customer's issues and concerns
- Demonstrate the ability to resolve customer's issues in a timely and appropriate manner
- Demonstrate key skills for delivering quality service and products to clients and customers

#### Key Competencies

*Demonstrate the ability to:*

- Explain importance of customers in business, and the responsibilities of the Technical Support Specialist to the customers
- Listen to the customer's input and ask critical questions to differentiate between the customer's actual needs and desires
- Solicit feedback from customers and apply input to improve the quality of service
- Schedule and effectively manage multiple customers requests
- Deliver solutions to customers in a timely and appropriate manner
- Follow-up with customers to evaluate effectiveness of service or product
- Act as a liaison between technical groups to coordinate delivery of service or product

#### Performance Indicators -Proficiency Level

*Demonstrate the ability to:*

- Explain the role of customer service personnel in an organization
- Explain the responsibilities of a Technical Support Representative to customers
- Define telephone courtesy
- List the characteristics of active listening
- Use telephone courtesy and active listening when working with customers
- Be flexible in one's own communication approach
- Use basic negotiation skills
- Respond effectively to dissatisfied customers
- Communicate in a timely manner with customers at all phases of the interaction
- Ask questions that solicit productive input and feedback from customers
- Work effectively with multiple customer's requests
- Organize and schedule tasks efficiently
- Deliver solutions that meet customer's needs in a timely and appropriate manner

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Performance Indicators -Expert Level

*Demonstrate the ability to:*

- Deliver a level of service or product in line with customer's needs and resources
- Assess the effectiveness of the customer interaction process
- Make recommendations for improvement in the customer relation process
- Recognize when a customer concern needs to be referred to someone else in or outside the organization
- Report recommendations to other parts of the organization on product or service design improvement based on customer's inputs
- Act as a liaison between groups to meet customers needs

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Installation

#### Tasks from Skill Standards Document

- Identify customer requirements
- Interpret and evaluate requirements
- Review Documentation
- Develop installation plan
- Implement installation plan
- Evaluate processes and outcomes

#### Learner Program Outcomes

- Demonstrate the ability to identify and evaluate customer requirements
- Demonstrate the ability to install software programs and perform basic configuration and customization
- Demonstrate the ability to develop, implement and evaluate an installation plan
- Demonstrate a basic understanding of compatibility issues

#### Key Competencies

*Demonstrate the ability to:*

- Analyze and inventory hardware and software to determine compatibility
- Choose between default and custom installation options
- Configure software to appropriate settings
- Troubleshoot unexpected results and formulate a new installation procedure
- Read and use installation documentation
- Document step by step installation and configuration procedures
- Disable currently installed software that may interfere with installation of new software
- Research and obtain help from manufacturers' technical help lines
- Identify differences between an upgrade and new installation
- Install application and system software on a variety of platforms

#### Performance Indicators — Proficiency level

*Demonstrate the ability to:*

- Document complete hardware specifications required for successful software installation
- Document complete software specifications including operating systems and currently installed programs
- Install software using default options
- Document steps involved in a software installation procedure
- Perform simple configuration of software after installation
- Disable software that may interfere with installation of new software
- Use help lines to troubleshoot when appropriate
- Install new software on standalone computers
- Install software in DOS and Windows environments
- Read and follow documentation that accompanies software products
- Implement an installation plan

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Performance Indicators — Expert level

*Demonstrate ability to:*

- Customize settings in software
- Solve unexpected installation problems and develop alternative procedures
- Modify software configuration to meet user needs and preferences
- Un-install software
- Develop an installation plan
- Evaluate the effectiveness of an installation plan

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Maintenance

#### Tasks from Skill Standards Document

- Perform diagnostics
- Communicate and document status
- Develop and implement a preventative maintenance plan
- Evaluate processes and outcomes

#### Learner Outcomes

- Demonstrate basic knowledge of computer maintenance
- Demonstrate the ability to apply preventative hardware maintenance procedures to computers
- Demonstrate the ability to develop and implement a preventative maintenance plan and evaluate its effectiveness

#### Key Competencies

*Demonstrate the ability to:*

- Identify causes of hardware failures and lost of data and the associated preventative maintenance procedures
- Identify and implement preventative maintenance procedures
- Develop and implement a preventative maintenance plan and evaluate its effectiveness

#### Performance Indicators — Proficiency level

*Demonstrate the ability to:*

- Identify and list the causes of hardware failures
- Identify and list the causes of lost data
- Identify and define preventative maintenance procedures
- Associate preventative maintenance procedures with hardware failures and causes of lost data
- Perform de-fragmentation
- Perform virus checks
- Use ScanDisk to find and fix problems
- Run and interpret diagnostic software (MSD, Norton Utilities)
- Clean out the inside of a computer

#### Performance Indicators — Expert level

*Demonstrate ability to:*

- Develop and implement a preventative maintenance plan
- Evaluate a preventative maintenance plan and suggest improvement

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Problem Solving/Troubleshooting

#### Tasks from Skill Standards Document

- Define the problem
- Perform appropriate analysis to identify problem cause
- Identify and test possible solutions
- Develop resolution plan
- Evaluate problem solving processes and outcomes

#### Learner Program Outcomes

- Demonstrate the ability to identify and use a wide range of resources and techniques to identify and define technical problems
- Demonstrate the ability to identify and use appropriate tools and methods to correctly isolate and identify technical problems
- Demonstrate the ability to develop and implement resolution plans

#### Key Competencies

*Demonstrate the ability to:*

- Recognize and define the problem
- Use a wide range of troubleshooting resources and techniques
- Identify and isolate causes of the problem
- Identify possible solutions to the problem, and to methodically test these solutions
- Develop a plan to implement the solution
- Develop recommendations based on troubleshooting process and results

#### Performance Indicators - Proficiency level

*Demonstrate the ability to:*

- Recognize a gap between current situation and desired condition
- Articulate specific areas of unsatisfactory performance or conflict
- Identify the factors affecting the desired outcome
- Discern symptoms and causes
- Use resources in seeking solutions to the problem
- Evaluate possible solutions relative to desired outcome
- Outline a sequence of steps which will lead to the desired outcome in a timely manner
- Explain the different steps and processes used to identify the problem

#### Performance Indicators - Expert level

*Demonstrate the ability to:*

- Consult a variety of appropriate and valid technical resources, such as technical manuals, on-line sources, and expert opinions
- Develop a testing scheme to isolate individual variables, and clearly document methodology and results
- Analyze the troubleshooting process and make recommendations for improvement
- Analyze source of the problem and make recommendations to prevent recurrence of problem

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Project Management

#### Tasks from Skill Standards Document

- Define the scope of the project
- Identify and evaluate risks
- Prepare a contingency plan
- Identify interdependencies
- Secure needed resources

#### Learner Program Outcomes

- Demonstrate an understanding of the basic phases of project management, and the ability to use appropriate project management planning tools and methods
- Demonstrate the ability to coordinate the use of resources with other team members and groups

#### Key Competencies

*Demonstrate the ability to:*

- Clearly define and articulate project scope and goals
- Analyze relationships between parts and wholes
- Identify project/task resource requirements
- Use resources effectively
- Establish and identify milestones, benchmarks and frequency of monitoring
- Monitor budgets, evaluate staff and monitor time
- Identify criteria to determine the effectiveness of use of resources
- Work effectively within the system and with members of the team and organization

#### Performance Indicators - Proficiency Level

*Demonstrate the ability to:*

- Define project goals
- Break down a project into component tasks
- Articulate task interdependencies
- Organize and prioritize tasks
- Identify and secure training needs
- Project resource needs such as human, time, budgetary and equipment resources
- Identify and match resources to tasks
- Establish criteria, format and timelines to monitor tasks
- Monitor the use of resources
- Evaluate processes and products during and at the end of the project
- Use evaluation information to adjust activities to meet goals

#### Performance Indicators - Expert Level

*Demonstrate the ability to:*

- Train as necessary and build project team
- Deal with “reluctant” staff members and offer alternative solutions
- Predict potential pitfalls
- Establish a process for making task adjustments

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Task Management

#### Tasks from Skill Standards Document

- Defining scope of work to achieve individual and group goals
- Design and develop work processes and procedures
- Identify and obtain tools and resources to do the job
- Coordinate and implement work processes and procedures
- Monitor, analyze and evaluate work processes and procedures

#### Learner Program Outcomes

- Demonstrate the ability to organize and prioritize multiple tasks in the most effective way
- Demonstrate the ability to allocate time and resources according to task complexity and priority
- Demonstrate the ability to evaluate task outcomes and continually improve process

#### Key Competencies

*Demonstrate the ability to:*

- Identify tasks and their interdependencies
- Break down tasks into activities and perform activities
- Prioritize tasks and organize in appropriate sequence
- Monitor and evaluate progress of each task
- Assess successful completion of each task against standards
- Develop monitoring indicators
- Make process improvements and adjustments as work on task progresses
- Estimate time to complete a task
- Assign adequate resources to completion of task
- Develop schedule of tasks to be completed

#### Performance Indicators - Proficiency level

*Demonstrate the ability to:*

- List tasks
- Prioritize tasks
- Break each task into sub-tasks/activities
- Group related tasks and activities
- Compare standards with outcome of work on a task and recognize discrepancies
- For each task, list factors indicating successful progress to completion of task
- Accurately estimate time for task completion
- Develop schedule of tasks based on time estimates
- Adjust schedule to account for delays
- Identify resources such as information resources, human resources, tools (software, hardware, other)
- Apply resources to task appropriately
- Complete task in accordance with standard and timeline

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Performance Indicators - Expert level

*Demonstrate the ability to:*

- Extrapolate from knowledge of simple tasks to planning of complex tasks
- Estimate accurately time to complete complex tasks
- Use task management tools to organize tasks and allocate resources
- Apply professional standards to measure outcomes
- Develop a plan and an alternate plan to complete goals
- Justify time estimates using previous experience
- Develop time estimates when previous experience does not apply

## Learner Program Outcomes, Key Competencies & Performance Indicators

### Teamwork

#### Tasks from Skill Standards Document

- Not directly applicable
- Learner Program Outcomes
- Demonstrate the ability to organize and work in a team setting
- Demonstrate the ability to recognize expertise and to learn from others, and demonstrate collaborative decision-making
- Demonstrate the ability to work and communicate effectively with persons of different backgrounds

#### Key Competencies

*Demonstrate the ability to:*

- Use effective communication skills when interacting in a team environment
- Risk exposure of one's ideas, recognize that others are taking risks as well, and respect the opinion and feeling of others
- Explain group dynamics, team processes, and different roles within a team and their purpose
- Work collaboratively to set team goals, showing flexibility in accepting others' leadership
- Fairly evaluate others' ideas when they are in conflict with one's own
- Manage conflicts that arise, and maintain and build on the team process
- Learn from others' and build on others' expertise and strengths
- Comprehend/interpret meaning when ideas are expressed from diverse cultural, ethnic or linguistic perspectives
- Respect different styles of communication and actively encourage contribution from all team members

#### Performance Indicators - Proficiency level

*Demonstrate the ability to:*

- Explain the use of formal brainstorming techniques
- Listen attentively without interrupting
- Effectively express one's ideas orally
- Judge when to ask for clarification
- Use a variety of techniques to obtain clarification (paraphrase, direct question)
- Be non-judgmental and open to all ideas
- Filter good ideas from inappropriate or non-productive ideas
- Show an awareness of and respect for cultural, ethnic, and linguistic diversity
- Organize and prioritize ideas that have been generated by the group
- Draw out ideas and input from others
- Articulate roles and their functions

#### Performance Indicators - Expert level

*Demonstrate the ability to:*

- Explain the differences in communication styles and how they benefit the overall team
- Recognize and actively build on team members' various strengths and expertise

## **Learner Program Outcomes, Key Competencies & Performance Indicators**

- Summarize and present group decisions both orally and in written form
- Recognize conflicts and apply appropriate resolution strategies
- Assume a variety of roles within a team
- Engage team members who are reluctant to participate, especially when those team members are from diverse cultural, ethnic or linguistic backgrounds
- Define the functions of each role within a team and assign members to these roles



## **UNIT ASSIGNMENTS**

## Unit 1 - Developing Help Desk Policies and Procedures

### Team or Individual:

Team

### Purpose:

This assignment is designed to help students understand the role of the help desk in a business. Students will learn to evaluate a scenario and develop a written model (including policies and procedures) for their help desk. Students are expected to use their policies and procedures when implementing their help desk. Students will evaluate and modify their procedures on an ongoing basis.

### Functions and Tasks Students will Accomplish:

1. Task Management:
  - Define scope of work to achieve individual and group goals
  - Design and develop work processes and procedures
  - Coordinate and implement work processes and procedures
  - Monitor, analyze and evaluate work processes and procedures
2. Education/Training Others:
  - Identify customer requirements for information or training

Certain criteria have been identified under the assignments in each unit. For identification of specific skill standard-based performance criteria, refer to the *Learner Program Outcomes, Key Competencies, and Performance Indicators* section of this module.

### Assignment:

Working as a team, develop a Policies and Procedures manual for your help desk. The audience for this manual would include both users (customers) and employees of the help desk. It should be detailed enough that anyone reading it would know how to proceed without contacting a supervisor.

### Include the Following Sections:

1. Cover Page:
  - Use this assignment sheet as the cover page
2. Title Page including:
  - Team #
  - Member's Names
  - Help Desk Policies and Procedures Manual title
  - Date
3. Task sheet:
  - Sheet that shows which member(s) worked on which section of this assignment.
4. Mission Statement/Goals
5. Customer Profile
6. Budget - anticipate expenses (including wages) and create a quarterly budget.

7. List of services - the list of things offered for sale:
  - What are your boundaries?
  - What will you support?
  - What won't you support?
  - At what level will you support each technology?
  - What times/days will you give service?
  - What will your standard hard drive configuration be?
  - Who is responsible for providing the support?
  - Who is responsible for delivery?
  - How will you support? Describe the procedure that should be followed when a user is requesting service. Will you accept requests by phone, Fax, E-mail, in person?
8. Job titles and responsibilities:
  - What are the titles and responsibilities of your help desk staff?
9. Priorities:
  - Detail your priorities for responding to:
    - Questions
    - Requests
    - Down equipment or software
    - Determine who will set the priorities?
10. Objectives:
  - What measurable tasks do you plan on accomplishing that will assist you in reaching your goals?
11. Describe in detail your procedures for:
  - Handling a call
  - Resolving a problem
  - Answering a question
  - Handling call escalation
  - Servicing a request
  - Responding to emergencies
  - Informing customers of system problems
  - Reporting
12. Performance Evaluation:
  - Create a checklist to be used later in the quarter. It should be related to your objectives described above.

### **What to Turn in:**

Your Policies and Procedures Manual in a 3-ring binder

## Unit 2 - Developing Problem/Solution Knowledge Base

### Team or Individual:

Individual

### Purpose:

To understand the role and perspective of the customer and to provide problems for the development of each team's problem/solution knowledge base.

### Functions and Tasks Students will Accomplish:

1. Facilitation/Customer Service
  - Manage working relationships with customers within support boundaries
  - Negotiate services
  - Manage multiple customer requirements
  - Act as a liaison between groups
2. Problem Solving/Troubleshooting
  - Define the problem

### Assignment:

Bring in at least one problem for each team's area of specialization. These problems can be delivered to the teams through various means (e-mail, written, verbal) depending on the team's documented procedure for accepting requests for service. Make sure you understand and comply with each team's policy on requesting service.

### What to Turn in:

The Summary of Problems sheet

## Unit 3 - Tool Box

### Team or Individual:

Individual

### Purpose:

To gather and organize the resources required to assist a computer user with a hardware or software failure.

### Functions and Tasks Students will Accomplish:

1. Analysis
  - Identify resources and risks
  - Formulate a plan directions or options
2. Project Management
  - Define the scope of the project
  - Identify and evaluate risks
  - Prepare a contingency plan
  - Identify interdependencies
  - Secure needed resources
3. Task Management
  - Identify and obtain tools and resources to do the job
4. Problem Solving/Troubleshooting
  - Identify and test possible solutions
  - Develop resolution plan

### Assignment:

1. Develop ToolBox that includes:
  - Hardware tools required to work on PCs
  - Floppy disks that include critical operating system files
  - Floppy disks that include critical utility files
  - Software packages necessary to troubleshoot PC (such as utility software, backup software, anti-virus software)
  - Books/handouts/other resources
2. Develop a document that includes:
  - A list of hardware tools
  - A list of critical operating system files and a description of what they do and when to use them
  - A list of critical utility programs/files and a description of what they do and when to use them
  - A list of resources including:
    - Books
    - Internet sites
    - People
    - Companies
    - CDs

**What to Turn in:**

1. Show the instructor your actual toolbox in class
2. The document created in #2 above

## Unit 4 - Utilizing Problem/Solution Knowledge Base and Call Tracking Database

### Team or Individual:

Team

### Purpose:

To develop an understanding of how to service a user's request.

### Functions and Tasks Students will Accomplish:

1. Facilitation/Customer Service
  - Manage working relationships with customers within support boundaries
  - Negotiate Services
  - Manage multiple customer requirements
  - Act as a liaison between groups
2. Documentation
  - Query Existing knowledge base effectively
  - Record and update situation details
  - Write problem solutions in the knowledge base
  - Prepare customer oriented problem solution summary
3. Task Management
  - Identify and obtain tools and resources to do the job
  - Coordinate and implement work processes and procedures
  - Monitor, analyze and evaluate work processes and procedures
4. Problem Solving/Troubleshooting
  - Perform appropriate analysis to identify problem cause
  - Identify/test possible solutions
  - Develop resolution plan

### Assignment:

1. Using the requests for services brought in from customers, (classmates) log the information into your call tracking database
2. Using resources such as the Internet, books, people and various knowledge bases, search for solutions to each problem
3. When the solution is found:
  - Prepare a customer oriented problem and solution summary. (This form should be the same for all team members to use. We will discuss the development of this form in class.)
  - Notify the customer of the solution and make sure the problem is resolved
4. If you can't find a solution in a timely manner:
  - Notify the customer of your intentions. Will you:
    - continue researching, if so how long will it take?
    - escalate the call?
    - tell them to just forget it, you don't have time to figure it out?
    - provide them with another method of accomplishing their task?
5. Write the problem and solution into the knowledge base

**What to Turn in:**

1. The customer-oriented problem and solution summaries
2. A Task Sheet that shows which member(s) worked on which section of this assignment

## Unit 5 - Installation Plan

### Team or Individual:

Team

### Purpose:

To learn how to develop, implement and evaluate an installation plan.

### Functions and Tasks Students will Accomplish:

1. Analysis
  - Evaluate present data and system configuration
  - Formulate a plan, directions or options
  - Communicate and document status
2. Installation
  - Identify customer requirements
  - Interpret and evaluate requirements
  - Review documentation
  - Develop installation plan
  - Implement installation plan
  - Evaluate processes and outcomes

### Scenario:

The XYZ Company just bought a new hard drive for user Janet Long. The hardware technicians have successfully installed the hard drive. Now it's time for your team to install software according to the user's requirements. You will need to FDISK, FORMAT and load the operating system. She wants WIN 95, MS Office professional and 5 games that she owns installed. (More information on her preferences to be provided through interviews of Janet in class).

### Assignment:

1. Develop an installation plan that includes:
  - A list of customer requirements and preferences
  - An evaluation of the customer's requirements against the list of services you provide and your standard hard drive configuration
  - An evaluation of the installation documentation for the requested software (Will it run on her system? Any special requirements or conflicts you need to be aware of before installing? Do you have the correct installation media?)
  - Determine and describe what you will be installing. If it is different from the user's request, notify her in writing.
  - Written procedures for testing the installation
2. Implement the installation plan:
  - Install
  - Configure
  - Customize
  - Test

## Unit Assignments

3. Write a memo to the customer asking for feedback regarding the installation process (Is her computer setup the way she expected?)
4. Evaluate her feedback and make changes where required

### **What to Turn in:**

1. The installation plan
2. Any memos sent to the user
3. Any changes you made to the system after evaluating her feedback
4. A Task Sheet that shows which member(s) worked on which section of this assignment

## Unit 6 - Maintenance Plan

### Team or Individual:

Team

### Purpose:

1. To develop, implement and evaluate a maintenance plan

### Functions and Tasks Students will Accomplish:

1. Analysis
  - Evaluate present data and system configuration
  - Formulate a plan, directions or options
  - Communicate and document status
2. Maintenance
  - Perform diagnostics
  - Communicate and document status
  - Develop and implement a preventative maintenance plan
  - Evaluate processes and outcomes

### Assignment:

Develop a preventative maintenance plan that includes:

1. A description of your hardware and software specifications
2. Descriptions of possible causes of loss of data and failure of equipment (include both hardware and software problems)
3. For each problem identified above, describe its associated preventative maintenance task(s) and the process you will use to implement each task (Examples: Backup plan/cycle, OS failure, corrupt registry, virus plan, hard disk failure, etc.)
4. Develop a 3 month schedule or grid that allows you to track:
  - Which tasks should be accomplished and how often (some may only be necessary if an actual failure takes place)
  - Which team member will perform each maintenance task
  - Whether the task has been completed
  - This should consist of a check-off /sign-off column
5. During the rest of the quarter, follow your maintenance plan making sure you check-off each task as it is accomplished

### What to Turn in:

1. Preventative maintenance plan including up to date check-offs
2. A Task Sheet that shows which member(s) worked on which section of this assignment

## Unit 7 - Education/Training Others

### Team or Individual:

Individual

### Purpose:

1. *Teacher*: To gain experience educating and training customers
2. *Learner*: To learn the most frequently asked questions (problems and solutions) in a new area of specialization

### Functions and Tasks Students will Accomplish:

1. Education/Training Others
  - Identify customer requirements for information or training
  - Interpret and evaluate requirements
  - Define scope of work to meet customers' learning requirements
  - Identify resources
  - Identify content/procedures
  - Organize and present information/training
  - Evaluate effectiveness of training

### Assignment:

Each student will pair up with a student from a different team and will participate in **both** the role of the teacher and in the role of learner.

*Teacher's role*: Train user in your area of specialization.

*Learner's role*: Attend a 30 min training session at a mutually agreed upon time and evaluate the teacher.

The *Teacher* will develop and implement a training plan that:

1. Defines the scope of work to meet learner requirements (what topics are you limited to and to what depth will you teach them)
2. Identify resources you will need to satisfy learner educational needs (Utilize knowledge base, sample calls, manuals, computer for demonstrations etc.)
3. Identify content (what exactly will you teach them)
4. Organize content (develop a training outline and training materials such as handouts)
5. Develop a training evaluation questionnaire for the learner to complete
6. Present information and training to learner
7. After completing the training, present the evaluation to the learner

The *Learner* will:

1. Attend the training session
2. Fill out the evaluation prepared by the teacher

### What to Turn in:

*Teacher*: Training plan

*Learner*: Training evaluation questionnaire (turn in directly to instructor, will be kept confidential)

## Unit 8 - Education and Training Option

Decide as a group which team member will present the 10 most frequently asked questions (and solutions) for your area of specialization to the class. This team member will not be required to do the individual training as outlined in the original module 7.

These FAQs do not necessarily have to be the problems and solutions you collected from class.

This oral presentation is worth the same as Unit 7 (100 pts) and will be graded on the following criteria:

1. Introduction:
  - Your name
  - Team Name
  - Area of specialization
2. Body:
  - 10 FAQs and solutions presented in an organized and concise format
  - May use software to actually demonstrate problems and solutions
3. Length of Presentation:
  - Must be at least 10 min, and no longer than 20 min
4. Use of Visual Aid:
  - Must use at least 1 visual aid. It can be PowerPoint, overhead monitor, white board or handouts.
5. Voice Projection:
  - Make sure your voice is clear and loud enough for everyone to hear you

### **What to Turn in:**

A disk with the FAQs that can be shared with the students. Be sure to turn it in prior to the presentation so the instructor can get it to the students.

## Unit 9 - Help Desk Evaluation

**Team or Individual:**

Individual

**Purpose:**

To evaluate and rate each help desk team

**Functions and Tasks Students will Accomplish:**

1. Task Management
  - Monitor, analyze and evaluate work processes and procedures
2. Problem solving/troubleshooting
  - Evaluate problem solving processes and outcomes

**Assignment:**

Evaluate each help desk's response to your request for service by filling out the Help Desk Evaluation Form. (next page)

**What to Turn in:**

The Help Desk Evaluation Form

**Help Desk Evaluation Form**

Use the following rating table below to rate the service received regarding the resolution of your problems. For each question indicate the percent (0%-100%) applicable to the team.

Make sure to total up the scores and divide the total score by the number of questions to get the average

	<b>Team 1</b>	<b>Team 2</b>	<b>Team 3</b>	<b>Team 4</b>	<b>Team 5</b>	<b>Team 6</b>
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Was your problem solved? (0=no, 50=sort of, 100 = yes)

Was your request serviced in a timely manner?

How would you rate this team’s customer service skills in general?

How would you rate this team’s problem solving ability in general?

Would you use this team again? (0=no, 100=yes)

Other:

TOTAL:

**AVERAGE:**

Divide the total by the number of questions answered.

Comments:

## Unit 10 - Team Member Evaluation

### Team or Individual:

Individual

### Purpose:

To evaluate and rate each team member

### Functions and Tasks Students will Accomplish:

1. Task Management
  - Monitor, analyze and evaluate work processes and procedures
2. Problem solving/troubleshooting
  - Evaluate problem solving processes and outcomes

### Assignment:

- Your evaluation will be kept confidential
- Please fill out the Team Member Evaluation sheet (See below)
- Fill in the team member names in the column headings
- For each statement, please indicate your impression of the level of performance during the class project for the team member named above
- For each question indicate the percent (0 to 100%) applicable to the student:
- Make sure to total up the scores and divide the total score by the number of questions to get the average

**TEAM MEMBER EVALUATION FORM**

Follow the instructions for unit 10

Evaluator: \_\_\_\_\_

Team Member Names:

Was present in class to work with team \_\_\_\_ % of the time.

Turned in their work assignments on time \_\_\_\_\_% of the time.

Did quality work in their assigned tasks \_\_\_\_ % of the time.

Was a “team player” \_\_\_\_ % of the time.

Was professional to work with \_\_\_\_ % of the time.

Contributed their fair share to the overall project work \_\_\_\_% of the time.

**TOTAL:**

**AVERAGE:**

Divide the total by the number of questions answered.

Outline below the specific contribution, or lack of contribution, your team members made to the overall team effort: