# Program Information

## Lesson:

### *Employability Skills: Resource Management*

## Training:

## Fiber Optic

## Time frame:

### 60 minutes

# Instruction Section

## Learning Objectives:

# Identify key principles of resource management (time, personnel, and money).

# Demonstrate critical thinking and planning skills in resource allocation and prioritization.

## Assessment Tools/Methods:

# Observe participants' engagement during discussions and activities.

## Learner Prior Knowledge:

# Basic Project Concepts: Understanding what a project entails: defined goals, timelines, resources, and deliverables. Awareness of common phases in a project lifecycle: planning, execution, and completion.

# Fiber Optic Basics: Familiarity with key fiber optic components and terminology, such as cables, connectors, and splicing methods. Knowledge of basic installation and testing processes.

# Workplace Skills: Experience working in teams, including communication and collaboration. Basic problem-solving and decision-making skills.

# Basic Math and Budgeting Skills: Ability to perform simple calculations, such as percentages and cost estimates. Awareness of how budgets function in a project context.

# Time Management Awareness: General understanding of how prioritizing tasks and meeting deadlines impact project success.

## Instructional Activities:

# Introduce the importance of resource management for fiber optic technicians.

# Ask participants to answer, “Why are time, personnel, and money critical resources in fiber optic projects? What happens when these are poorly managed?"

# Activity 1: Resource Management Overview

# Explain to participants that they will work in small groups to complete the Resource Management Overview Handout.

# Allow participants time to complete the handout with their group.

# After completion of the task, allow participants time to share their answers with the whole group. Add to their responses if needed using the Resource Management Overview Instructor Answers.

# Activity 2: Time Management

# Begin by explaining why time is critical in fiber optic installations (e.g., deadlines, client satisfaction).

# Introduce three key strategies from the Time Management Strategies Handout: prioritization, time buffers, and communication, discussing the key points on the handout with the group.

# Have participants work in small groups or partners to work through the two scenarios on the handout.

# Discuss the results of the role-play and ask if there are questions or alternative answers to the scenarios.

# Activity 3: Personnel Management

# With the group discuss the three skills to master for improving personnel management skills:

# Delegation: Assign tasks based on team members’ strengths and workload.

# Conflict Resolution: Use active listening and neutral language to mediate disputes.

# Motivation: Recognize and reward good work to boost morale.

# Present the scenario that two technicians are having a disagreement during their shift.

# What strategies could be used to resolve the conflict?

# Highlight constructive approaches like active listening and clear communication.

# Ask participants if they have ever experienced an issue with a coworker or supervisor during their work.

# How did they handle the situation?

# How could personnel management help in future conflicts?

# Activity 4: Money Management:

# Emphasize how effective budgeting ensures project success by allocating sufficient resources while avoiding financial stress.

# Highlight consequences of poor budgeting, such as delays, compromised quality, or exceeding client budgets.

# Review the key concepts on the Budget Allocation Handout.

# Refer to the Budgeting Process section in the handout and summarize breaking down the budget into categories, allocating resources based on priorities, and planning for contingencies to handle unexpected expenses.

# Explain that in small groups, participants will simulate a real-world scenario by allocating a $10,000 project budget across key categories.

# Remind participants to consider material costs, technician wages, and unforeseen costs.

# Provide time for the groups to complete the activity, while circulating around the room answering questions and providing support.

# Ask each group to present their budget allocations and explain their decisions. (Note: answers are found on the Budget Allocation Instructor Answers page).

# Encourage the class to ask questions or challenge the presented allocations.

# Activity 5: Conclusion:

# Summarize the main points discussed: time management strategies, personnel coordination, and budgeting basics.

# Allow time for participants to ask any remaining questions related to resource management skills.

##  Resources:

# Whiteboard and markers

# Resource Management Overview Handout

# Resource Management Overview Instructor Answers

# Time Management Strategies Handout

# Budget Allocation Handout Budget

# Allocation Instructor Answers

*Note: AI, specifically ChatGPT 3.5, was used to generate scenarios for this contextualized lesson plan.*

# Reflection Section

Reflecting on today’s lesson, how do time, personnel, and money management interconnect in ensuring the success of a fiber optic project? During group activities, what strategies did your team use to make decisions and address potential project challenges? How might these strategies be applied in real-world scenarios? Think of a situation in your role as a fiber optic technician where one of today’s topics (time, personnel, or money management) could significantly impact the outcome. How would you apply what you learned to address this situation?

**Resource Management Overview Handout**

**Key Definitions:** Create definitions for the terms and explain how they relate to fiber optic jobs.

* Time Management: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Personnel Management: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Money Management: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Impacts of Poor Resource Management

1. Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Personnel: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Money: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examples in Fiber Optic Work

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**Resource Management Overview Instructor Answers:**

**Key Definitions**

* **Time Management:** Organizing and prioritizing tasks to meet deadlines efficiently.
* **Personnel Management:** Effectively coordinating team members to ensure optimal productivity and morale.
* **Money Management:** Allocating and monitoring budgets to avoid overruns and ensure resource availability.

**Impacts of Poor Resource Management**

1. **Time:** Missed deadlines leading to project delays and client dissatisfaction.
2. **Personnel:** Burnout, low morale, and reduced team efficiency.
3. **Money:** Budget overruns, financial loss, or inability to complete the project.

**Examples in Fiber Optic Work**

* Delayed cable delivery leads to idle technicians.
* Poor task delegation results in duplicate work.
* Overspending on unnecessary equipment reduces funds for contingencies.

## Time Management Strategies Handout

**Why Time Management Matters**

Effective time management is critical for fiber optic technicians to:

* Meet project deadlines.
* Avoid costly delays.
* Maintain client satisfaction and trust.

**Time Management Framework**

1. **Planning:** Set clear goals, deadlines, and timelines.
2. **Prioritization:** Focus on tasks that have the greatest impact on the project.
3. **Execution:** Follow the plan efficiently, adjusting for real-time challenges.
4. **Evaluation:** Review progress and adjust as needed.

**Core Strategies for Time Management**

1. **Break Down Tasks into Milestones**
	* Divide the project into smaller, manageable tasks (e.g., splicing, testing, installation).
	* Set deadlines for each milestone to track progress.
	* Example: For a five-day installation, assign Day 1 to cable preparation, Days 2–3 to splicing, and Day 4 to testing.
2. **Prioritize Using the “Urgent vs. Important” Matrix**
	* Categorize tasks:
		+ **Urgent and Important:** Handle immediately (e.g., critical equipment repair).
		+ **Important but Not Urgent:** Plan and schedule (e.g., documenting procedures).
		+ **Urgent but Not Important:** Delegate (e.g., administrative tasks).
		+ **Not Urgent, Not Important:** Minimize or eliminate.
3. **Use Productivity Tools**
	* Employ project management tools like Trello, Asana, or Gantt charts to organize and visualize tasks.
	* Use time-tracking tools like Toggl to monitor how time is spent on specific activities.
4. **Allocate Time Buffers**
	* Anticipate delays such as equipment failures or unexpected permitting issues.
	* Build a 10–15% time buffer into your schedule.
5. **The Two-Minute Rule**
	* If a task takes two minutes or less (e.g., quick communications or checking equipment status), do it immediately to clear small tasks off the list.
6. **Set Clear Deadlines**
	* Always assign specific deadlines, even for smaller tasks. Avoid vague timeframes like “ASAP.”
	* Example: Instead of “Finish splicing soon,” say, “Complete splicing by Thursday, 2 PM.”
7. **Batch Similar Tasks**
	* Group similar tasks together to save time.
	* Example: Test all installed connections in one go rather than testing after each installation.
8. **Communicate Regularly**
	* Hold brief team meetings at the start and end of the day to align tasks and adjust plans.
	* Example: A quick 10-minute meeting ensures everyone is clear about priorities and potential obstacles.

**Challenges to Watch For**

* **Procrastination:** Address by setting specific, short-term goals.
* **Multitasking:** Focus on one task at a time for better efficiency.
* **Unforeseen Issues:** Use time buffers and maintain flexibility to handle unexpected problems.

**Time Management Tips in Action**

**Example Scenario:**
*Project:* Installing fiber optics in a multi-story office building.

1. **Pre-Plan Tasks:** Assign teams to different floors to work simultaneously.
2. **Prioritize Equipment Check:** Ensure all tools are operational before the start of the project to avoid delays.
3. **Create Daily Checklists:** Set clear goals for each day to keep the project on track.

**Practical Exercise**

In pairs, discuss the following scenario and answer the questions.

* **Scenario 1:** A project was delayed due to waiting for materials that hadn’t been ordered in advance.
1. What went wrong? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Which of the above strategies could have improved the outcome? \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Scenario 2:** During an installation, two technicians disagree about whether to use fusion or mechanical splicing. The argument has caused a 30-minute delay.
* In pairs, roleplay the supervisor addressing the situation. One plays the supervisor, the other plays one of the technicians.

**Sample Resolution Approach:**

1. Listen to both technicians' perspectives without interruption.
2. Highlight the project's priorities and time constraints.
3. Make a clear decision based on the situation, explaining the rationale.
4. Encourage teamwork and move forward.

**Discussion Question:** What challenges did you face while mediating the conflict? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Budget Allocation Handout**

**Why Budgeting Matters**

Effective budget management ensures:

* Projects are completed within financial constraints.
* Contingencies are handled without delays.
* Profitability and client satisfaction are maintained.

**Core Principles of Budgeting**

1. **Understand the Project Scope**
	* Know what the project requires in terms of materials, labor, and additional resources.
	* Examples:
		+ Materials: Fiber optic cables, connectors, and testing equipment.
		+ Labor: Technicians for installation, splicing, and testing.
		+ Additional resources: Permits, equipment rentals, and safety gear.
2. **Plan for Contingencies**
	* Allocate at least 10–15% of the budget for unexpected costs.
	* Examples:
		+ Extra cable due to route changes.
		+ Equipment repairs or replacements.
3. **Track Spending Throughout the Project**
	* Monitor expenses regularly to ensure the project stays on track.
	* Use software like QuickBooks or spreadsheets for detailed tracking.
4. **Make Data-Driven Decisions**
	* Base allocations on past projects of similar scope and scale.
	* Example: If a similar project required 25% of the budget for testing, use that as a reference point.

**The Budgeting Process**

1. **Divide the Budget into Categories**
Break down the total budget into key areas:
	* **Materials:** Cables, connectors, equipment, etc. (e.g., 40%)
	* **Labor:** Technician wages, overtime, etc. (e.g., 35%)
	* **Contingency:** Unforeseen expenses (e.g., 15%)
	* **Permits and Miscellaneous:** Permitting fees, safety gear, etc. (e.g., 10%)
2. **Prioritize High-Impact Areas**
	* Identify critical components that must be funded first.
	* Example: Testing equipment is essential for ensuring installation quality.
3. **Review and Adjust Regularly**
	* Adjust allocations as project needs evolve.

**Common Challenges in Budget Allocation**

1. **Underestimating Costs**
	* Solution: Research market prices and consult suppliers beforehand.
2. **Overestimating Contingencies**
	* Solution: Base contingencies on realistic risk assessments.
3. **Untracked Expenses**
	* Solution: Require daily expense reporting from the team.

**Budget Allocation Case Study Example**

**Scenario:**
*A client has allocated $20,000 for a fiber optic installation project for a large office complex. You are tasked with creating a budget that covers materials, labor, contingencies, and other costs.*

**Task:** Using the guidelines above, allocate the budget across the categories. Justify your decisions.

| **Category** | **Allocation** | **Reasoning** |
| --- | --- | --- |
| Materials | $8,000 (40%) | High cost due to bulk cables, connectors, and testing equipment. |
| Labor | $7,000 (35%) | Covers technician wages and possible overtime for tight deadlines. |
| Contingency | $3,000 (15%) | Accounts for delays, additional materials, or unexpected expenses. |
| Permits & Misc. | $2,000 (10%) | Includes permits, safety gear, and administrative fees. |

**Practical Exercise**

**Scenario Exercise:**
*You are given a budget of $10,000 for a smaller premises cabling project. Create a budget allocation plan. Assume materials include cables and connectors, labor is for one technician, and miscellaneous expenses include permits.*

1. Allocate percentages for materials, labor, contingencies, and other expenses.
2. Justify why you chose these percentages.

**Sample Discussion Answer:**

| **Category** | **Allocation** | **Reasoning** |
| --- | --- | --- |
| Materials |  |  |
| Labor |  |  |
| Contingency |  |  |
| Miscellaneous |  |  |

**Tips for Success in Budgeting**

1. Always confirm pricing with suppliers before finalizing the budget.
2. Keep records of past budgets for reference in future projects.
3. Communicate budget limitations clearly to the team.
4. Prioritize essential expenses over optional or "nice-to-have" items.

**Budget Allocation Instructor Answers**

**Practical Exercise**

**Scenario Exercise:**
*You are given a budget of $10,000 for a smaller premises cabling project. Create a budget allocation plan. Assume materials include cables and connectors, labor is for one technician, and miscellaneous expenses include permits.*

1. Allocate percentages for materials, labor, contingencies, and other expenses.
2. Justify why you chose these percentages.

**Sample Discussion Answer:**

| **Category** | **Allocation** | **Reasoning** |
| --- | --- | --- |
| Materials | $4,000 (40%) | Materials like cables are a significant cost and need upfront prioritization. |
| Labor | $4,500 (45%) | Majority of the budget goes to the technician's wages. |
| Contingency | $1,000 (10%) | Covers small unexpected issues, like additional materials. |
| Miscellaneous | $500 (5%) | Minimal administrative and permitting costs for a smaller project. |

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