**Practical assignment in the field of plumbing  
  
Title of assignment**

Installation of a cold water supply system in a house with good, new and modern equipment.  
**Short description of the assignment**  
The customer is a Zanzibarian landlord who wants to renovate his house with a good cold water supply system. He insists that the system must be installed correctly and in concordance with modern technical specifications, safely and neatly in all respects. First he wants to have a conversation with the plumbers to find out if they are going to do a good job and to get a calculation of the costs involved. The installation in his house has to be done in four days.  
   
Being students in plumbing at Karume Vocational Centre (KIST), you are challenged to show your competences: installation of this cold-water supply system, good customer careand entrepreneurship. You are going to work in a group of two to four students. During and after working on this assignment, you will be assessed by the customer, your teachers, yourself and your fellow students.

**At school you will work on**

* Preparing and planning of this assignment: what do you need to know/learn, which skills do you need to have and what kind of attitude is a condition to accomplish this assignment correctly?
* Theory and practical on ‘How to deliver good customer care?’.
* Theory and practical on ‘How to calculate the price for this installation?’
* Theory and practical on ‘How to install the cold water supply system?’
* The installation itself will be done in the house of the customer or during apprenticeship at a company.
* Self-study individually and in cooperation with your group if needed.

**After finishing this assignment, the following competences have been obtained**

**Knowledge obtained**

Customer care, entrepreneurial skills, procedure and principle of preparing a cutting list, estimation and installation of cold water tank by using the indirect method.

**Skills obtained**

* Business planning
* Customer service
* Communication skills
* Risk taking
* Decision making
* Ability to innovate
* Planning of work activities, customer care, entrepreneurial skills
* Identification and selection of suitable materials and components
* Preparation of cutting list
* Estimation of plumbing components
* Measuring and cutting pipes
* Manual thread cutting
* Pipe joining
* Installation of domestic cold-water supply system
* Testing for leakages

**Attitude obtained**

Customer care, good communication, self-confidence, delivery of neat, safe and high quality work

according to the **current plumbing curriculum. The standard covered with this assignment is:** Level 1 in customer care, entrepreneurial skills and technical knowledge and skills in plumbing.

**Modules covered and their units:**

* Retailing and selling

Unit 3: Customer relations

* Entrepreneurial skills
* Performing Bench work

Unit no.6, Performing manual thread cutting

* Installing pipes, tapes and valves

Unit no.2, Cutting pipes, tapes and valves

Unit no.3, Installing tapes and valves

* Installing domestic water supply system

Unit no.1, Performing pipe joining

Unit no.2, Installing domestic cold water supply system

**Assignment course content:** Plumbing and Pipe fitting

**How much time does this assignment take?**

At school for preparation and learning activities:

4 lessons of 2 hours (8 hours) are required

2 hours are required for self-study

At the site at the customer 4 days of work are needed

**The students do the work in several places, such as:**

In workshops of Vocational Centres

During apprenticeship in a company

At home.

**It is a group assignment and it can be done by two to four students together**

They will search and select materials, prepare a cutting list, draw up a quotation list, fix the water tank and join the pipes and their components. During the apprenticeship they need to have the conversation with the customer and perform good customer care.

**The contribution of each of them can be assessed by**

Several assessors: teachers, the customer, their fellow students and the students themselves.

Citeria are :

* Active participation in group work and discussions
* Insight in the value of one’s contribution (motivation, what went good, what to correct and why, how they learned from it)
* Presentation of their plan
* Report writing by individual and as a group.

**Order of steps to follow**

* Preparation of the assignment by students (making a plan); Assessment by teacher whether it is a good plan
* The practical skills come after the orientation phase

Question: How to connect the practical and theoretical issues?

**Activating methods which are used:**

**Buzz:** Will be used in initial stage after orientation

**Project:** Is used in implementation stage

**Group work:** to be used when doing practical work and in discussions, assessment and reflection sessions

**Demonstration:** in activities to learn skills

**Presentation:** of the first plan and the final product

**Brainstorming:** to make a plan

**Guidance of the individual student and of subgroups** will be provided during class discussion and in orientation phase.

**When and what about the assessment of the acquired competences?**

**During the assignment:** Continous assessment for diagnostic purposes

* Interview them after presentation of plan
* Direct observation
* Assessing portfolio
* Assessing log or diary

**At the end of the assignment:** practical test, the result of the installation

**Criteria for grading the results of each group**

**On a scale from 1-5, how would you rate the following:**

**(1 = poor 2 = below average; 3 = average; 4 = good; 5 = excellent)**

Active listening skills

1 2 3 4 5

Strong communication skills

1 2 3 4 5

Patience with others

1 2 3 4 5

Good judgement

1 2 3 4 5

Active planning

1 2 3 4 5

Identification and Selection of suitable materials and components

1 2 3 4 5

Preparation of cutting list

1 2 3 4 5

Estimation of the costs of plumbing components

1 2 3 4 5

 Measuring and Cutting pipes

1 2 3 4 5

Performing manual thread cutting

1 2 3 4 5

Performing pipe joining

1 2 3 4 5

Installation of domestic cold water supply system

1 2 3 4 5

Testing for leakages

1 2 3 4 5