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| **King Fahd University of Petroleum & Minerals**  **College of Engineering Sciences**  **Mechanical Engineering Department** |  |

**Coop Training Program**

**“Company Name”**

***Company logo***

***If available***

**Final Report**

**(**Select a suitable title to represent your activities**)**

**Submitted to**

**Coop Advisor: Dr. xxx advisor xxx**

**Coop Coordinator: Dr. Mohamed Antar**

**Prepared by: xxx student name xxx**

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| **Name** | **Family Name** | | | | | **First Name** | | | |
|  | Alhajri | | | | | Mohammad | | | |
| **KFUPM ID#:** | **2** | **0** | **1** |  |  |  |  |  |  |

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**Summary**

A summary of the contents are to be inserted here in a bout half a page such that it summarizes the contents you have inside and provide a brief idea of what youhave done during coop training period.

**Acknowledgement**

This is where you acknowledge the support you had from your company supervisor, copworkers and coop advisor

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# List of Figures

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Figure 2: figures should be of high quality and there is no limit on the number

Figure 3: if a figure is taken from a reference, the reference number should be a part

Figure4: of the caption

Figure5:

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# List of Abbreviations and Symbols

PTT: Penetrant Testing

OST: Over Speed Test

NDT: Non-Destructive Testing

RPM: revolution per minute

LAO: Linear Alpha Olefins

MHI: Mitsubishi Heavy Industries

LP: Low Pressure

(this is where all the symbols used in the report should be placed)

# Chapter 1

# Introduction to coop Activities

## Introduction

## Company profile :

## Company organization :

## Safety issues in the workplace:

## 1.5 Coop plan (in the appendix)

Please refer to Appendix A for the coop plan

## Discrepancy from the coop plan activities

This is where you need to mention if there is a change in the plan and explain the reason for this change

# Chapter 2

# Theoretical Background

## 2.1. Introduction

Short introduction to this chapter

## Theoretical Background

In this chapter you should select a topic related to the main activities in the company and present the theoretical background from the courses you studied earlier.

Use analysis, figures, tables to support you explanation

For example, if you worked in an area where gas turbines are there, you need to bring information related to Brayton Cycle, if it is a steam power plant, it must be Ranking cycle, if it is a place having compressors, then compressors types, basic theory of operation, performance parameters,….etc.

You may use the textbooks, library sources, company catalogs,….this are your initial references. When you extract information from a reference, put the reference number between square brackets []. This number should match the list of references at the end of the report.

# Chapter 3

# Work Activities and case studies

## Introduction

Short introduction to this chapter

## 3.2 **Main activities**

Here you start describing your activities in the company, your main role and what you have learned.

You may use many subsections as needed

## Case Study 1

## Case study 2

There is no particular requirement for the case study, no certain numbers, a good case study can be sufficient, you need the help of both your supervisor at work and coop advisor to identify the formulate your case study(ies).

# Chapter 4

# Design Component

## Introduction

Short introduction to this chapter

## PictureDesign of a component, a system, a process………

The engineering design process is summarized in the figure. Any design process starts with asking questions such as (1. ASK):

1. What are the design requirements (needs) of the user?
2. What are the objectives of the current design?
3. What are the problems of the current design?
4. What are the constraints of the current design?

You have to think as an engineer and try to come up with few improved designs that fulfil the requirements within the given constraints and choose the best one. This is described below as brainstorming (2. IMAGINE). You may select an element, a component, a mechanism, a system around you and try to apply this process to improve its design and offer a better design. The problem could be an element or a component that fails periodically at work, or any element or machine part and exercise the design procedure including all assumptions and required calculations. (e.g connecting rod, hydraulic cylinder, drilling bit, a heat exchanger or a boiler…..etc). Again, you may seek help from your company supervisor or coop advisor. You might not have the time and authority to implement the new design and complete the design process to testing and repeating as shown in the figure below (3. PLAN, 4. CREATE, and 5. IMPROVE). However, you may present your proposed design to your supervisor and your academic advisor and present your design work during your coop presentation. The advisor and the committee will evaluate your design based on the following elements:

* **Innovation:** The novelty of the design alternatives and the creativity of the selected design.
* **Achievement:** extent of improvement in fulfilling the design requirements
* **Engineering Methodologies:** Engineering approaches and tools used to accomplish the design (engineering calculation, FEM, simulation, modelling)
* **Analyses of Risk, Reliability, Safety, and cost.**
* **Following engineering codes and standards.**

# Chapter 5

# Conclusion and Recommendation

## Conclusions

In this section, you are expected to write technical conclusion. It should be related to the technical knowledge you gained during training and NOT just general terms

**For example, it is not accepted to write that the coop period is useful and that the 28 weeks improved your skills …… etc**

## Recommendation

Here, a technical recommendation is to be added, you can extract it from your case study or design exercise

# References

The list of references should be given here number in the same sequence they appeared in the report. Within the report, wherever information extracted from a reference should be followed by a square bracket and a number inside (e.g. [5]). This number should be listed here with the appropriate reference.

Internet links can also be considered as references

**Appendix1: coop plan**

|  |  |
| --- | --- |
| **COMPNAY**  **LOGO** | **Name of The Company** |

**APPLIED MECHANICAL ENGINEERING**

**(AME) COOP WORK PLAN**

|  |
| --- |
| **SECTION (A):**  Information about the student and the Company |

To be filled by the student:

|  |  |  |  |
| --- | --- | --- | --- |
| **The Student** | **KFUPM ID #:** |  | |
| **Name (Family Name, First Name):** |  | |
| **E-mail Address:** |  | |
| **Mobile Phone:** |  | |
| **KFUPM Coop Advisor:** |  | |
| **Academic Advisor:** |  | |
| **Training Period:** | From | To |
| (DD/MM/YYYY) | (DD/MM/YYYY) |

|  |  |  |
| --- | --- | --- |
| **ME Coop Coordinator** | **KFUPM ME Coordinator:** | Dr. Mohammed Antar |
| **Tel. :** | (013)-860-2964 |
| **E-mail:** | [antar@kfupm.edu.sa](mailto:antar@kfupm.edu.sa) |

To be filled by the supervisor/mentor in the company:

|  |  |  |  |
| --- | --- | --- | --- |
| **The Company** | **Company Name:** |  | |
| **Location:** |  | |
| **Website of the Company:** |  | |
| **Training Department/Division:** |  | |
| **Supervisor/Mentor Name:** |  | |
| **E-mail Address: (Supervisor)** |  | |
| **Telephone: (Supervisor)** |  | |
| **Mobile: (Supervisor)** |  | |
| **Fax:** |  | |
| **SECTION (B): OBJECTIVES** | |

Writing a training objective correctly ensures that all parties understand what the student is to be working towards. A well written objective will provide clarity in terms of what the student should be learning and how well they should be performing the task.

**Objectives:**

1. ……………………………………………………………………………………………………………………………
2. ……………………………………………………………………………………………………………………………
3. ……………………………………………………………………………………………………………………………
4. ……………………………………………………………………………………………………………………………
5. ……………………………………………………………………………………………………………………………

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| **SECTION (C): Training Program Outline** |

Kindly provide the key training elements/focus areas that the Company will assign the student, indicating the length of time, major department rotations, if applicable: (you may combine weeks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Training Period** | | | **Department Name** | **Tasks:**  Please indicate if individual work assignments or team assignments will be made |
| **Week #** | **From**  (DD/MM/YYYY) | **To**  (DD/MM/YYYY) |
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| **28** |  |  |  |  |

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| **SECTION (D): Expected Coop Training Outcomes** |

Kindly provide your Company’s expectations of the key student training outcomes whether they are measurable, or otherwise

|  |  |
| --- | --- |
| **Key outcomes-company assigned and student initiated** | **By who and/ how will they be assessed** |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5 |  |

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| **SECTION (E): APPROVAL** |

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| **KFUPM APPROVAL**  **Coop Advisor** | | **COMPANY APPROVAL**  **Mentor/ Supervisor** |
|  | **Approved** | **Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Date**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Company Stamp**: |
|  | **Not Approved** |
| **Coop Advisor** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

# Appendix2: xxxx

You may add as many appendices as you think will demonstrate your work clearly.