



Faculty of Engineering

Production Engineering Department

## **Research for an M. Sc. Degree in Production Engineering**

### **Research Title :**

*"Thermomechanical Treatment of Low carbon Multi-microalloyed steels "*

### **Researcher's Name:**

*Eng. : Nader Fouad Dawood Beshay .*

### **Advising Committee:**

*Prof. Dr : Taher Ahmed Ahmed Elbetar .*

*Dr : Saber Abdelrady Mahmoud .*

*Ass. Prof. Dr : Ahmed Ismail Zaky .*

### **Scheduling plan:**

<b>#</b>	<b>Activity</b>	<b><u>Expected time spent at least ( month)</u></b>
<b>1</b>	<i>Literature survey on previous similar studies.</i>	<b>6</b>
<b>2</b>	<i>Material (steel) preparation .</i>	<b>1</b>

<b>3</b>	<i>Delation specimen preparation and measurements .</i>	2
<b>4</b>	<i>Multi-directional forging then cooling in different cooling mediums .</i>	3
<b>5</b>	<i>Metallographic investigation before and after forging .</i>	2
<b>6</b>	<i>Machining of the standard hardness , tensile , impact test specimens .</i>	4
<b>7</b>	<i>Mechanical testing and evaluation results .</i>	7
<b>8</b>	<i>Fractographic investigation .</i>	2
<b>9</b>	<i>Analysis &amp; Validation of Results .</i>	3
<b>10</b>	<i>Conclusion and Recommendations .</i>	2
<b>11</b>	<i>The preparation and Submission of Thesis .</i>	2