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<b>Program</b>	<b>Engineering</b>
<b>Specialization</b>	<b>Energy Technology</b>
<b>Course Number</b>	<b>020304242</b>
<b>Course Title</b>	<b>Instrumentation technology in electrical power plants lab.</b>
<b>Credit Hours</b>	<b>1</b>
<b>Theoretical Hours</b>	<b>0</b>
<b>Practical Hours</b>	<b>3</b>

**Brief Course Description:**

Instrumentation and process control technicians install, maintain, repair, and adjust the measuring and controlling instruments that make plants run safely.

**Course Objectives:**

This course is designed to ability to understand and analyze Instrumentation systems and their applications to various industries. Upon completion of this course the student should achieve the following goals:

1. To provide an overview on power generation through various methods.
2. To educate on the important power plant measurements and devices.
3. To educate on basic Boiler control techniques.
4. To educate on advanced Boiler control techniques.
5. To educate on the turbine control techniques.

**Detailed Course Description:**

**(I Simulation Experiments)**

<b>Unit Number</b>	<b>Unit Name</b>	<b>Unit Content</b>	<b>Time Needed</b>
<b>1</b>	<b>Single Element and Three Element Drum Level Control</b>		
<b>2</b>	<b>Combustion Control</b>		
<b>3</b>	<b>Steam Temperature Control</b>		
<b>4</b>	<b>Boiler Management System and Boiler Start-up</b>		
<b>5</b>	<b>Measurements In Power Plants</b>		

**II Visit to Power Plants and submission of written report on the same**

**Evaluation Strategies:**

Exams		Percentage	Date
1. Exams	Med- Term Exam	20%	
	Final Exam	50%	
2. Reports and Projects		30%	

**Teaching Methodology:**

1. Laboratory
2. Visits to Power Plants.

**Text Books & References:**

**Textbook:**

1. Overett Woodruff , Herbert Lammers, Thomas Lammers, Steam Plant Operation, 9 th Edition McGraw Hill, 2012.
2. Rajput R.K., AText book of power plant Engineering. 5th Edition, Lakshmi Publications,2013.

**References:**

1. Liptak B.G., Instrumentation in Process Industries, Chilton Book Company, 2005.

*Al-Balqa' Applied University*



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تأسست عام ١٩٩٧

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2. P.K. Nag, Power plant Engineering, Tata McGraw; Hill Education, 3rd edition, 2007.