

## DESCRIPTION OF MODULE



### Planning Control and Quality Systems

<b>Aim</b>	<p>To acquire knowledge about quality planning methods applied in organizations, quality management systems applied in production, and quality assurance methods applied in production. To develop practical skills in intermediate and final product control, applying control methods in technological process. To acquire knowledge about control method, and about designing quality activities plan. To acquire knowledge to assess and control company' s energy resources.</p>
<b>Tasks (Learning outcomes)</b>	<p><i><b>The workplace matches the competence and duties:</b></i>  <i>analyse and evaluate specific stages of control;</i>  <i>analyse stability and discrepancy of technological processes / evaluate relevant data;</i>  <i>form a quality plan / select control methods and measuring instruments.</i></p> <p><b>The student is able to:</b>          analyse and evaluate specific stages of control.  <b>Knows:</b>          how technological processes are regulated.  <b>Understands:</b>          methods of wood product control.</p> <p><b>The student is able to :</b>          analyse stability and discrepancy of technological processes / evaluate relevant data  <b>Knows:</b>          the principles of product quality planning and specifics of applying control.  <b>Understands:</b>          the impact of measurement method selection.</p> <p><b>The student is able to:</b>          form a quality plan, and select control methods and measuring instruments.  <b>Knows:</b>          how to apply quality parameters to wood products.  <b>Understands:</b>          the procedure of standardization in terms of measurement and product quality.</p>
<b>Assessment form</b>	<p>Peer assessment;          Self-assessment;          Active activity in the module;          Oral presentation;          Product design and presentation.</p>

## CONTENT OF MODULE

Learning outcomes	Topics	Content (suggested)	Units	Assessment of acquired learning outcomes(optimal level)	Methods and ideas for learning process
<p><b>1. The trainee is able:</b> to analyse and evaluate specific stages of control.</p> <p><b>Knows:</b> how technological processes are regulated.</p> <p><b>Understands:</b> methods of wood product control.</p>	<p><b>1.1.</b> Selective control.</p>	<p><b>1.1.1.</b> The concept of selective control.</p>	2	<p><b>Peer-assessment</b> <b>Choice of control method, designing a chart.</b> <b>To be able to assess and control company s energy resources.</b></p> <p><b>Name and recognize control features.</b></p>	<p><b>Lecture</b> <b>Creativity Workshops</b> <b>Individual Project</b></p>
		<p><b>1.1.2.</b> Parameters of selective control plan and their properties.</p>	2		
		<p><b>1.1.3.</b> Principles for selecting the acceptable and unacceptable level of defect.</p>	2		
		<p><b>1.1.4.</b> Evaluation of the effectiveness of selective control.</p>	2		
		<p><b>1.1.5.</b> Plans of selective control and user requirements.</p>	2		
		<p><b>1.1.6.</b> Methods of wood materials selective control.</p>	2		
		<p><b>1.1.7.</b> Methods of steel materials selective control.</p>	2		
		<p><b>1.1.8.</b> Methods of other materials selective control.</p>	2		
		<p><b>1.1.9.</b> Energy classes of production buildings.</p>	2		
		<p><b>1.1.10.</b> Performing energy audits of production buildings.</p>	2		
		<p><b>1.1.11.</b> Automated control machines.</p>	2		
	<p><b>1.2.</b> Continuous control.</p>	<p><b>1.2.1.</b> Features of continuous control.</p>	2		
		<p><b>1.2.2.</b> Characteristics of continuous control.</p>	2		
		<p><b>1.2.3.</b> Analysis of the results of a single stage continuous control.</p>	2		
		<p><b>1.2.4.</b> Analysis results of continuous control of two stages.</p>	2		
		<p><b>1.2.5.</b> Evaluation of the effectiveness of continuous control.</p>	2		
		<p><b>1.2.6.</b> Methods of wood materials continuous control.</p>	2		
		<p><b>1.2.7.</b> Methods of steel materials continuous control.</p>	2		
		<p><b>1.2.8.</b> Methods of other materials continuous control.</p>	2		
	<p><b>1.3.</b> Statistical regulation of technological processes.</p>	<p><b>1.3.1.</b> Purpose and types of management schedules.</p>	2		
<p><b>1.3.2.</b>Principles of management scheduling.</p>		2			
<p><b>1.3.3.</b> Introduction: Statistics</p>		2			
<p><b>1.3.4.</b>Management graphs by quantitative attribute.</p>		2			
<p><b>1.3.5.</b>Management graphs by qualitative attribute.</p>		2			

<p><b>2. The trainee is able:</b> to analyse stability and discrepancy of technological processes / evaluate relevant data <b>Knows:</b> the principles of product quality planning and specifics of applying control. <b>Understands:</b> the impact of measurement method selection.</p>	<p><b>2.1.</b> Analysis of technological process.</p> <p><b>2.2.</b> Product quality planning.</p>	<p><b>2.1.1.</b> Graphic representation and analysis of technological process. 2  <b>2.1.2.</b>Control over the technological process. 2  <b>2.1.3.</b> Ensuring the stability of technological process. 2  <b>2.1.4.</b>Analysis of discrepancies. 2  <b>2.1.5.</b> Monitoring of technological process. 2  <b>2.1.6.</b>Making and analysis of Pareto chart. 2  <b>2.1.7.</b>Formation and analysis of histograms. 2  <b>2.1.8.</b>Data flowcharts. 2  <b>2.1.9.</b> Quality data processing with computers programs. 2</p> <p><b>2.2.1.</b> Control personnel. 2  <b>2.2.2.</b> Methods of measurement and measuring instruments. 2  <b>2.2.3.</b> Metrology. 2  <b>2.2.4.</b> Testing and control. 2  <b>2.2.5.</b> Selection of quality criteria. 2  <b>2.2.6.</b> Setting the regularity of control. 2  <b>2.2.7.</b> Documents used for the control. 2</p>	<p>2</p>	<p><b>Active participation in the module</b> <b>Self-assessment</b></p>	<p><b>Lecture</b> <b>GroupWork</b> <b>Individual Project</b></p>
<p><b>3. The trainee is able:</b> to form a quality plan, and select control methods and measuring instruments. <b>Knows:</b> how to apply quality parameters to wood products. <b>Understands:</b> the procedure of standardization in terms of measurement and product quality.</p>	<p><b>3.1.</b> Preparation of product quality plan.</p> <p><b>3.2.</b> Product quality parameters.</p> <p><b>3.3.</b> Standardization.</p>	<p><b>3.1.1.</b> Introduction to the VISIO program of process modelling. 2  <b>3.1.2.</b> Composing a task for a quality plan. 2  <b>3.1.3.</b> Coordination and approval of a quality plan. 2  <b>3.1.4.</b> Third party companies. 2  <b>3.1.5.</b> Risk assessment in quality planning. 1</p> <p><b>3.3.1.</b> Main parameters of surface roughness of wood products, their determination and marking of roughness in detail drawings. 1  <b>3.3.2</b> Determining the degree of dimensional accuracy (quality), maximum dimensional deviations of linear and hole axes and their presentation in detail and assembly drawings. 1  <b>3.3.3.</b> Research methods for finishing coatings. 1</p> <p><b>3.4.1.</b> The concept of standardization. 2  <b>3.4.2.</b> Standardization in companies. 2  <b>3.4.3.</b> Standards used in the wood industry. 2  <b>3.4.4 .</b> Standards used in the steel industry. 2  <b>3.4.5 .</b> Standards used in the plastic industry. 2  <b>3.4.6 .</b> Standards of quality systems used in the wood industry. 2  <b>3.4.7.</b> Environmental and human safety standards. 2  <b>3.4.8.</b> Energy management standards. 2</p>	<p>2</p>	<p><b>Oral Presentation</b> <b>Creating a product quality plan</b></p>	<p><b>Lecture</b> <b>Practical Exercises</b> <b>Individual Project</b></p>
<b>Total:</b>				<b>90</b>	

## References

№	Year of publication	Author and title of the publication	Publishing house
1.	2012	A.Čereška "Kokybės valdymas ir optimizavimas"	VGTU"Technika"
2.	2007	A.Kaziliūnas "Kokybės valdymas"	M.Romerio universitetas
3.	2012	B.Jančiauskas"Pramonės įmonių valdymas"	VGTU"Technika"

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