

Akashi College		Year	2023	Course Title	Production Engineering
Course Information					
Course Code	5518		Course Category	Specialized / Elective	
Class Format	Lecture		Credits	School Credit: 1	
Department	Mechanical Engineering		Student Grade	5th	
Term	First Semester		Classes per Week	2	
Textbook and/or Teaching Materials					
Instructor	KIMURA Masaaki				
Course Objectives					
Learn and understand the following engineering fundamentals related to management. (1) Production control and quality control (2) Analysis of quality data using statistical processing methods (3) Basic knowledge and intellectual property rights necessary for plant operation (4) Understanding environmental issues including recycling and ISO					
Rubric					
	Ideal Level		Standard Level		Unacceptable Level
Achievement 1	Understand production control and quality control sufficiently.		Production control and quality control Understand production control and quality control.		Do not understand production control and quality control.
Achievement 2	Fully understand analysis of quality data for production control and quality control.		Understand analysis of quality data for production control and quality control.		Do not understand analysis of quality data for production control and quality control.
Achievement 3	Fully understand the basic knowledge necessary for plant operation, intellectual property right, production control and quality control.		Understand the basic knowledge necessary for plant operation, intellectual property right, production control and quality control.		Do not understand the basic knowledge necessary for plant operation, intellectual property right, production control and quality control.
	Fully understand environmental issues including recycling, and ISO production and quality control.		Understand environmental issues including recycling, and ISO production and quality control.		Do not understand environmental issues including recycling, and ISO production and quality control.
Assigned Department Objectives					
Teaching Method					
Outline	This course will outline basic production and quality control technologies for engineers involved in production activities, and the statistical processing methods necessary to achieve them. Also, it will explain a wide range of topics from environmental issues to ISO, including intellectual property rights and recycling, which will be important in plant management in the current century, and acquire the basis of a wider range of ideas by deepening understanding of these issues.				
Style	Classes will be held in a lecture style, and there will be exercises and assignments. Taught by: Masaaki Kimura (Liaison: Takahiro Kato)				
Notice	Before taking the course, read the text, familiarize yourself with the content, and be prepared to ask questions during the course. Students who miss 1/3 or more of classes will not be eligible for evaluation.				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
Course Plan					
			Theme	Goals	
1st Semester	1st Quarter	1st	The basis and significance of production control and quality control	Learn about the basics and significance of production control and quality control.	
		2nd	Production and quality I History, production control and quality control, and cycle of control	Learn about the history of production control, the cycle of production control and quality control, and control.	
		3rd	Production and quality II QC 7 tools and New QC 7 tools	Learn about the QC seven tools and the New QC 7 tools.	
		4th	Statistical processing I The basics, terminology, and various parts	Learn about the basics, terminology, and various parts of statistical processing	
		5th	Statistical processing II Testing and estimation, and scatter diagram	Learn about testing and estimation, and scatter diagram.	
		6th	Statistical processing III Control charts, inspection methods, dispersion analysis, and the basis of design of experiments	Statistical processing III Learn about the basics of control charts, inspection methods, dispersion analysis, and design of experiments.	
		7th	Factory operation I Company fundamentals, work management, equipment and transport management	Learn about the basics of the company, work management, equipment and transport management.	
		8th	Midterm exam		
	2nd Quarter	9th	Factory operation II Plant accounting (Basic, break-even, purchasing management, and depreciation)	Factory operation II Learn about factory accounting basics, break-even points, purchasing management, and depreciation.	

		10th	Factory operation III Personnel management, and safety management	Learn about personnel management, and safety management.
		11th	Intellectual property rights, etc. I Intellectual property rights, industrial property rights, patents, etc.	Learn about intellectual property rights, industrial property rights, patents, etc.
		12th	Intellectual property rights, etc. II Product Liability Act, and TPM	Learn about the Product Liability Act and TPM.
		13th	Intellectual property rights, etc. III ISO, and recycling	Learn about ISO and recycling.
		14th	Presentation of the cause and effect diagram I	Learn about cause and effect diagram.
		15th	Presentation of the cause and effect diagram I	Learn about cause and effect diagram.
		16th	Final exam	

Evaluation Method and Weight (%)

	Examination	Exercises	Attendance ・ Learning situation	Behavior	Portfolio	Other	Total
Subtotal	35	35	30	0	0	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	35	35	30	0	0	0	100
Cross Area Proficiency	0	0	0	0	0	0	0