

Toyama College		Year	2022		Course Title	Applied Navigation Mechanics I
Course Information						
Course Code	0180			Course Category	Specialized / Elective	
Class Format	Lecture			Credits	Academic Credit: 1	
Department	Department of Maritime Technology			Student Grade	5th	
Term	First Semester			Classes per Week	1	
Textbook and/or Teaching Materials	Fluid Dynamics learned from the foundation (Ohmsha)					
Instructor	Fukudome Kenichi					
Course Objectives						
At the completion of this course, students will be able to (1) Obtain calculated results of fluid force due to pressure and so on (2) Understand the fundamental equation of fluid dynamics (3) Understand the nature of the fluid through the consideration above						
Rubric						
	Ideal Level of Achievement		Standard Level of Achievement		Unacceptable Level of Achievement)	
Evaluation 1	Can obtain calculated results of fluid force due to pressure and so on correctly		Can obtain calculated results of fluid force due to pressure and so on		Can not obtain calculated results of fluid force due to pressure and so on	
Evaluation 2	Can understand the fundamental equation of fluid dynamics correctly		Can understand the fundamental equation of fluid dynamics		Can not understand the fundamental equation of fluid dynamics	
Evaluation 3	Can explain the nature of the fluid correctly through the consideration above		Can understand the nature of the fluid through the consideration above		Can not understand the nature of the fluid through the consideration above	
Assigned Department Objectives						
Teaching Method						
Outline	Fluid dynamics is the academic expression of fluid motion and force by mathematical expressions. This course will focus on hydro dynamics, with the aim of acquiring knowledge useful for practical purposes.					
Style	Lecture and exercise					
Notice	Understand the fundamentals of physics (mechanics) and mathematics learned so far. In particular, remember basic differential and integral. If you can not understand the contents of this subject, try to ask questions at any time. Prepare a computer with trigonometric functions (sin, cos, tan), exponential function, logarithmic function calculation function. Those whose evaluation is less than 60 points can receive a follow-up program by submitting the approval test application. As a result of the follow-up program, for those who are allowed to acquire credits, the score is 60 points. Please note that the tracking program differs depending on the content that was not approved.The lesson plans may be changed according to the degree of understanding of the student.					
Characteristics of Class / Division in Learning						
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input type="checkbox"/> Instructor Professionally Experienced
Course Plan						
			Theme	Goals		
1st Semester	1st Quarter	1st	Guidance, Fluid (1)	To understand the concept of fluid dynamics and application in real world		
		2nd	Fluid (2), Static hydro dynamics (1)	Can explain physical variables used in fluid mechanics etc. , static mechanics and Pascal's principle		
		3rd	Static hydro dynamics (2)	Can explain Hydro static equilibrium, Absolute pressure and gauge pressure, Can explain Measurement of pressure (1)		
		4th	Static hydro dynamics (3)	Can explain Measurement of pressure (2), Total pressure (1)		
		5th	Static hydro dynamics (4)	Can explain Total pressure (2)		
		6th	Static hydro dynamics (5)	Can explain Buoyancy, Can explain Fluid in the container under accelerating motion		
		7th	Static hydro dynamics (6) Explanation of report task ①	Can explain Fluid in the rotating container		
		8th	Intermediate test	Can understand the summary so far		
	2nd Quarter	9th	Answer of intermediate test Basic equation of flow (1)	Can explain Force acting on fluid, Terms of fluid dynamics		
		10th	Basic equation of flow (2)	Can explain Continuous equation, Can explain Acceleration of fluid particle		
		11th	Basic equation of flow (3)	Can explain Equation of motion, Can explain Bernoulli's theorem (1)		
		12th	Basic equation of flow (4)	Can explain Bernoulli's theorem (2)		
		13th	Basic equation of flow (5)	Can explain Application of Bernoulli's theorem		
		14th	Basic equation of flow (6)	Can explain Equation of momentum		
		15th	Final examination	Can understand the summary so far		

		16th	Grade evaluation and confirmation, class evaluation questionnaire				
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Exercise	Total
Subtotal	70	0	0	0	0	30	100
Basic Ability	20	0	0	0	0	10	30
Technical Ability	50	0	0	0	0	20	70
Interdisciplinary Ability	0	0	0	0	0	0	0