Akashi College			Year 2022		Cours	^{se} S	steel Structures	В			
Course	Informa	tion									
Course Co	Course Code 4421				Course Catego	ry Specialized		l / Compulsory			
Class For	Class Format Lecture				Credits	School Cre		edit: 1			
Departme	ent	Architecture			Student Grade	de 4th					
Term		Second S	emester	Classes per We	ek 2						
Textbook Teaching	and/or Materials										
Instructor	r	NAKAGAV	VA Hajime								
Course	Objectiv	es									
1) To calc 2) To do t 3) To take acquired.	culate the the assign e photos o	allowable str ment in the f actual stee	ess level of stee design the joint I frame structure	l, and to design th of a beam, and b es around the stud	e section of a co e able to execut dent residence a	olumn and a e the design rea and to e	a beam n of var elabora	rious joint. te a report using th	ne knowledge		
Rubric											
			Excellent		Good		Insufficient				
Achievement 1			Can well calculate and design the structural members receiving axial force and bending.		Can calculate and design the structural members receiving axial force and bending.		the /ing	Can not calculate or structural member axial force and ber	or design the 's receiving iding.		
Achievement 2			Can well calcul bending struct	ate and design ural members.	Can calculate and design bending structural members.		ers.	Can not calculate a bending structural	and design members.		
Achievement 3			Can well calcul the joint (colur etc.)	ell calculate and design int (column, beam joint, column, beam joint,		and design t beam joint,	the , etc.)	Can not calculate a the joint (column, etc.)	and design beam joint,		
Assigne	d Depar	tment Ob	ectives								
Teachin	g Metho	d									
Outline Steel structures have its parts produced in factories, stru framework are assembled in the site by joining those ele course, the students will learn about compressed materi method of material to subjected to bending and axial for joint, and pillar/ beam joint.The course will give example construction work in the real world.						ural element ents with high bending main and the de of how the of	ts such gh-strei aterial, f esign mo content	as columns and be ngth bolts or weldi the cross-sectional ethod of the beam, learned relates to	ams, and the ng. In this design column design and		
Style The cours assignment in the city			se will follow the textbook. At the end of each chapter, the students will handle reports. At the free ent, the students will compare the contents learned in class with steel structure they have observed y.								
Notice The courtake note			se will present as many examples as possible of steel (steel frame) structure. The students should s during class and handle our requested assignments. 5 absences will be excused.								
Charact	eristics	of Class /	Division in Le	arning	1						
□ Active Learning □ Aided by ICT □ Applicable to Remote Class □ Instructor Profes							ssionally				
Course	Plan										
Course		1	heme			Goals					
2nd Semeste r	3rd Quarter	1st L	compression member (B-1) ecture on the design equation of compression nember.			To understand the pros and cons of steel structure, types and mechanical properties of steel materials.					
		2nd E r A	Compression member (B-2) Explanation of an example model of compression nember. Assignment (1)			To explain the width-to-thickness ratio of a compression member, and the design example of the textbook. To design a compression member.					
		3rd L t	Bending member (1) Lecture on the stress of bending member through the example model. Quiz (1)			To understand bending members (beams) and stress.					
		4th L	Bending member (1) Lecture on the lateral buckling torsion of a bending member.			To understand the transverse torsional buckling of bending members (uniform twist and restraint twist).					
		5th L	Bending member (2) Lecture on the lateral buckling torsion of a bending member.			To understand the transverse torsional buckling of bending members (uniform twist and restraint twist).					
		6th L	Bending member (3) Lecture on the allowable stress method of bending member.			To understand and design the allowable bending stress of a bending member.					
		7th E r A	Bending member (5) Introduction to a design example of bending member. Assignment (2)			To understand and design a bending member.					
		8th N	1id-term Exam								
	4th Quarter	9th E	1ember under ax 1) xplanation, usin olumn member	Bending, shearing, and axial force act on the pillar. Using an example, to understand the relationship between axial force and bending.							
L	1	C	na benuing mol	nent i	and bending moment .						

	10th	Member under axial fo (2) Lecture on the allowal column member.	orce and bending moment ble stress method of the	To understand and design axial force and structural members to be bent.				
	11th	Member under axial fo (3) Explanation of an exal material. Assignment (3)	orce and bending moment mple model of the column	To understand and desi structural members to t based on the example of	gn axial force and be bent. To design a pillar of the textbook.			
	12th	Column and beam joir Lectures on the colum design method of bea	nt (1) nn-beam joint and the m joint.	To understand the basics of joints and design beam joints through the analysis of samples of methods of joining pillars and beam structural members.				
	13th	Column and beam joir Lecture on the design Explanation of the allo all strength joint design design for beam joint.	nt (2) method of beam joint. wable stress joint design, gn and the ultimate joint	To understand the design method of the beam joint.				
14th 15th		Column and beam joir Explanation of an exar joint. Assignment (4)	nt (3) mple of a model of beam	To understand the design method of the beam joint.				
		Column and beam joir Lecture on the design column-beam joints. I about the three type of design experience. Qu	nt (4) method of column joint an Introduction to how to thinl of diaphragm based on join iiz (2)	To understand joining method of pillar-beam joint and its design method.				
	16th	End-term Exam						
Evaluation Method and Weight (%)								
		Examination	Assignments	Quiz	Total			
Subtotal		70	15	0	85			
Basic Proficiency		0	0	0	0			
Specialized Proficience	сy	70	15	0	85			
Cross Area Proficience	:y	0	0	0	0			