 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	D2 erstanding regard an and the world ne viewpoint of s coil management nowledge regard ork mental and symb iation (KN) situ (KN) situ (KN) ake (HK) purification of a la	ding the basic the dana (2) an und symbiosis.	ering neory of nati erstanding o Climate cha	of the environmental					
Code KZ400 Course overview The lecture contains (1) an underenvironmental resources in Japa problems or social trends from the environmental resources in Japa problems or social trends from the environmental resources in Japa Problems or social trends from the environmental resources in Japa Image: Keyword(s) Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Image: Learning objectives Students can obtain the latest known the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic associal 3. The role of microorganisms in 4. Eutrophication problem of a lat 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influe 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	D2 erstanding regard an and the world ne viewpoint of s coil management nowledge regard ork mental and symb iation (KN) situ (KN) situ (KN) ake (HK) purification of a la	ding the basic the dana (2) an und symbiosis.	ering neory of nati erstanding o Climate cha	ural environment or of the environmental ange, Toxic substances,					
The lecture contains (1) an under environmental resources in Japa problems or social trends from the Keyword(s) Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest krithe lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoc 3. The role of microorganisms in 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	an and the world ne viewpoint of s foil management nowledge regard ork mental and symb iation (KN) situ (KN) situ (KN) ake (HK) purification of a la	ding the basic the diama (2) an und symbiosis. It, Soil microbe, ding environmer	neory of nati erstanding o Climate cha	of the environmental					
environmental resources in Japa problems or social trends from the Keyword(s) Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest kn the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoc 3. The role of microorganisms in 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	an and the world ne viewpoint of s foil management nowledge regard ork mental and symb iation (KN) situ (KN) situ (KN) ake (HK) purification of a la	d and (2) an und symbiosis. t, Soil microbe, ding environmer nbiotic sciences"	erstanding o Climate cha	of the environmental					
 problems or social trends from the Keyword(s) Nutrient cycling, Agro ecology, St Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest knot the lecture and discussion. Lesson plans & homew Introduction: What is "Environ Nature of the symbiotic assoct The role of microorganisms in Eutrophication problem of a late Water quality and hydrology, p Soil resource for agricultural p Soil formation and plant-micros Soil formation and plant-micros Review of general chemistry Enzymatic reactions and influt Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	ne viewpoint of s foil management nowledge regard ork mental and symb iation (KN) situ (KN) situ (KN) ake (HK) purification of a la	symbiosis. It, Soil microbe, ding environmer nbiotic sciences"	Climate cha	inge, Toxic substances,					
 Keyword(s) Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest kr the lecture and discussion. Lesson plans & homew Introduction: What is "Environ Nature of the symbiotic association o	nowledge regard nowledge regard ork mental and symbol iation (KN) situ (KN) situ (KN) whe (HK) purification of a la	t, Soil microbe, ding environmer biotic sciences"	ntal and sym						
Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest kr the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoc 3. The role of microorganisms in 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	nowledge regardi ork mental and symb iation (KN) situ (KN) situ (KN) wke (HK) purification of a la	ding environmer nbiotic sciences"	ntal and sym						
Nutrient cycling, Agro ecology, S Carbon cycle, Oxygen cycle Learning objectives Students can obtain the latest kr the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoc 3. The role of microorganisms in 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	nowledge regardi ork mental and symb iation (KN) situ (KN) situ (KN) wke (HK) purification of a la	ding environmer nbiotic sciences"	ntal and sym						
 Learning objectives Students can obtain the latest kr the lecture and discussion. Lesson plans & homew Introduction: What is "Environ Nature of the symbiotic assoc The role of microorganisms in Eutrophication problem of a la Water quality and hydrology, p Soil resource for agricultural p Soil resource for agricultural p Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	ork mental and syml iation (KN) situ (KN) ike (HK) purification of a la	nbiotic sciences" lake (HK)		abiotic sciences throughou					
 Students can obtain the latest kr the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoct 3. The role of microorganisms in 4. Eutrophication problem of a lation 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micros 9. Soil formation and plant-micros 10. Review of general chemistry 11. Enzymatic reactions and inflution 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	ork mental and syml iation (KN) situ (KN) ike (HK) purification of a la	nbiotic sciences" lake (HK)		biotic sciences throughou					
 Students can obtain the latest kr the lecture and discussion. Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoct 3. The role of microorganisms in 4. Eutrophication problem of a lation 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micros 9. Soil formation and plant-micros 10. Review of general chemistry 11. Enzymatic reactions and influt 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	ork mental and syml iation (KN) situ (KN) ike (HK) purification of a la	nbiotic sciences" lake (HK)		ibiotic sciences throughou					
Lesson plans & homew 1. Introduction: What is "Environ 2. Nature of the symbiotic assoc 3. The role of microorganisms in 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ- 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN)	mental and syml iation (KN) situ (KN) ike (HK) purification of a la	lake (HK)	' (KN)						
 Introduction: What is "Environ Nature of the symbiotic assoc The role of microorganisms in Eutrophication problem of a la Water quality and hydrology, p Soil resource for agricultural p Soil resource for agricultural p Soil formation and plant-micro Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	mental and syml iation (KN) situ (KN) ike (HK) purification of a la	lake (HK)	' (KN)						
 Introduction: What is "Environ Nature of the symbiotic assoc The role of microorganisms in Eutrophication problem of a la Water quality and hydrology, p Soil resource for agricultural p Soil resource for agricultural p Soil formation and plant-micro Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	mental and syml iation (KN) situ (KN) ike (HK) purification of a la	lake (HK)	' (KN)						
 The role of microorganisms in Eutrophication problem of a la Water quality and hydrology, p Soil resource for agricultural p Soil resource for agricultural p Soil formation and plant-micro Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	situ (KN) ike (HK) purification of a la								
 4. Eutrophication problem of a la 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	ake (HK) purification of a la								
 5. Water quality and hydrology, p 6. Soil resource for agricultural p 7. Soil resource for agricultural p 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influ 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	ourification of a la								
 Soil resource for agricultural p Soil resource for agricultural p Soil formation and plant-micro Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 									
 Soil resource for agricultural p Soil formation and plant-micro Soil formation and plant-micro Review of general chemistry Enzymatic reactions and influ Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	roduction 1 (NS)	3)		5. Water quality and hydrology, purification of a lake (HK)					
 8. Soil formation and plant-micro 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influe 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	6. Soil resource for agricultural production 1 (NS)								
 9. Soil formation and plant-micro 10. Review of general chemistry 11. Enzymatic reactions and influe 12. Carbon and oxygen cycles in 13. Wrap-up discussions 1 (KN) 14. Wrap-up discussions 2 (KN) 	7. Soil resource for agricultural production 2 (NS)								
 Review of general chemistry Enzymatic reactions and influe Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	8. Soil formation and plant-microbe-soil interactions 1 (NS)								
 Enzymatic reactions and infle Carbon and oxygen cycles in Wrap-up discussions 1 (KN) Wrap-up discussions 2 (KN) 	9. Soil formation and plant-microbe-soil interactions 2 (NS)								
12. Carbon and oxygen cycles in13. Wrap-up discussions 1 (KN)14. Wrap-up discussions 2 (KN)	10. Review of general chemistry -Molecular structure/interactions and reactivity (SM).								
13. Wrap-up discussions 1 (KN)14. Wrap-up discussions 2 (KN)	11. Enzymatic reactions and influence of toxic substances (SM)								
14. Wrap-up discussions 2 (KN)	12. Carbon and oxygen cycles in environment (SM)								
,	13. Wrap-up discussions 1 (KN)								
15. Wrap-up discussions 3 (KN)	14. Wrap-up discussions 2 (KN)								
15. Wrap-up discussions 3 (KN)									
[Homework]									
Texts and/or references will be shared using MS TEAMS. Self-learning (approximately 90									
minutes/class) will be required for preparation. Students are encouraged to learn more about									
environmental and symbiotic sciences by reading academic papers and reference books.									
[Active learning]									
Group discussions will be held in each class.									
Notes	ı each class.								

On-line / face-to-face / blended						
Blended (available for on-line AIMS students)						
Device requirements						
Laptop PC						
Evaluation criteria						
A+ (90-100):	able to suggest an action plan for sustainable management of environment					
A (80-89):	able to assess the process for sustainable management of environment					
B (70-79):	able to discuss what is sustainable management of environment					
C (60-69):	obtain basic knowledge on sustainable management of environment					
D (0-59):	unable to understand sustainable management of environment					
Grading						
Learning results are evaluated by reports on the assigned subjects (not evaluated by final						
examination).						
Textbook(s)						
ISBN: ; Title: ; Author(s): ; Publisher: ; Year:						
Reference book(s)						
ISBN: ; Title: ; Author(s): ; Publisher: ; Year:						
Diploma policy						
Large perspective of the world			very important			
Knowledge and skills in a specific field			important			
Problem-solving ability			very important			
Communication skill			very important			
Practical English skill			important			
Attitude as a conscious member of society			slightly important			
Focus on regional revitalization			slightly important			
👬 Active learnii	ng Yes	BL	-			