

北海道大学大学院環境科学院  
環境起学専攻  
人間・生態システムコース

**Course in Human and Ecological Systems**  
**Division of Environmental Science Development**  
**Graduate School of Environmental Science, Hokkaido University**

令和2年度4月入学大学院修士課程入学試験問題（春季入試）  
**Entrance Examination**

専門科目  
**Specialized Subject**  
[留学生用]  
**[For International Students]**

- **All the questions must be answered in English.**
- **The backside of the answer sheet can be used if necessary.**

**February 20, 2020**

**Question** Regarding the researches in the Course in Human and Ecological Systems, choose 8 among the following terms and descriptions, write the number that you choose, and explain each of them in 3-4 lines.

1. Difference between V-shaped valley and U-shaped valley
2. Salt weathering
3. Red soil
4. Universal Transverse Mercator coordinate system
5. Alluvial fan
6. Transform fault
7. Pyroclastic flow
8. Doline
9. River capture
10. Soil catena
11. Evolutionary fitness
12. Relationship between “community complexity” and “community stability”
13. Difference between “exploitation competition” and “interference competition”
14. Difference between “specialist predators” and “generalist predators”
15. Difference between “keystone species” and “top predators”
16. Invasive alien species
17. Thermal wind
18. Inversion layer
19. Pressure gradient force
20. Stefan–Boltzmann law
21. Dry adiabatic lapse rate
22. Climate justice
23. Deoxygenation
24. Microplastics
25. Carbon dioxide capture and storage
26. The 2°C target
27. Trophic cascade
28. Difference between “commensalism” and “mutualism”
29. Watershed and river discharge
30. Genetic resources