

Exam 1. Honors Ecology

Due date: Thursday February 16, 2017

Answers should be submitted to Haoyu via email as a PDF document (no longer than 3 pages)

Answers will be graded highest if they are **evidence based, logically organized** and **clearly articulated**.

1. You are responsible for planning the vegetable garden of the NASA Mars station. Please list and support all your considerations to build and maintain this garden. Please remember that you will be responsible for feeding people for a year until the term of the mission. Do not worry about the technical portion of the structure of the greenhouse. You are responsible for the biological considerations.



2. Walking through an old neighborhood of a European city, you see herbs growing from cracks in the walls (doubtless a poor growing environment). Using what you have learned about the ecophysiology of plants, describe the sort of adaptations you would expect in these plants and what environmental pressures might determine their distribution (i.e. why they are up in the walls).



3. Discuss three contrasts between the characteristics of plants with evergreen versus deciduous leaves? What role does soil nitrogen concentration play in favoring evergreen or deciduous strategies?

