McMaster University (OUPFB Module 11)

Course Title:	**Environment and Biodiversity in China**
Instructor(s):	Jianping (J-P) Xu (McMaster, 905-525-9140 Ext. 27934, jpxu@mcmaster.ca)
Dates:	May 5-19, 2020
Location:	The Taiyuan Metropolitan Area, including the city proper, the Fen River, and the surrounding mountains. They are all within 300km radius of each other
Cost:	$1,850 [$350 deposit to McMaster University at time of registration; $1,500 balance due April 30th, 2020]. The fee covers: transportation within Taiyuan Metropolitan Area, food, lodging, experimental supplies, and park entries, during the entire two weeks of the module from May 5-19, 2020. The fee does not cover tuition at home university nor transportation to Taiyuan (to be arranged by student)
Prerequisites:	Students should be finished with one year of university education and should have taken at least one course in general environmental science or biology. Students should be prepared for moderately strenuous hikes and outdoor activities.
Enrolment*:	10 minimum/20 maximum students [(20 (8): max enrollment of 20; max of 8 for McMaster]
Course Description (brief):	This course has two broad objectives: (a) to gain a first-hand experience and understanding of biodiversity in a continental temperate climate, and (b) to learn and evaluate human effects on ecosystems and the functions and services that ecosystems provide to humans. To achieve the first objective, students will be exposed to the diversity of ecological niches in the continental temperate climate, and the diversity of plants, insects, birds, fish, and fungi. To achieve the second objective, we will use a mixed approach of literature presentations, surveys and field observations, to understand biodiversity assessment, the threats that the biodiversity faces, how best to maintain their sustainable utilizations, and how biodiversity could be used for effective environmental restoration. A series of papers relevant to this course will be distributed to students by the end of March 2020 to familiarize students with the background and issues to be discussed. In addition, DNA-based molecular barcodes will be introduced and hands-on molecular biology work will be practiced for identifying (potentially novel) species and populations of plants, insects, birds, fish, and fungi.
Evaluation:	Tentatively consists of the following: (i) A draft ideas/research proposal (5%); (ii) An individual presentation on a paper related to biodiversity and ecosystem function (15%); (iii) Field journal and field records (completeness 5%, neatness and readability 5%, accuracy and scientific value 10%; creativity, application and reflection 10%); (iv) Participation of field work and discussions (15%). (v) A final report based on the field survey data (35%).

An Average Day – What to Expect

(a) Daily timeline	An average work day may look like this: 7:30 breakfast, 8:30 field work rain or shine, 12:00 lunch break, 1:00-4:00pm continuing field work, 4:00-6:00pm class lectures and log books updates; 6:00 dinner, 8:00-9:30pm, student presentations.
(b) Work habitat & Physical exertion	We may walk up to about 10km per day along mostly trails, some of the trails are along steep rocky slopes. There will be water breaks and substantial rest periods to do surveys.
(c) Common activities	Activities: hiking, surveying, boating, class lectures and presentations Associated risks: potential sea sickness, getting lost, twisted ankles, fatigue, blisters from poor footwear, heat exhaustion
(d) Weather, dehydration, & biting insects	Weather conditions likely to be encountered: min./max. temp of 10-25^{o}C. There is potential for strong mid-day sun, high UV, high humidity, heavy rain, and high winds etc. Mosquitoes and house flies may be common in certain areas. Insect repellant will be provided.
(e) Toxic/poisonous, wildlife/ plants	May encounter poisonous snakes
(f) Sleeping, washroom & laundry facilities	Sleeping accommodations: student dorms (up to four in a room and gender specific), no heating/AC, all sleeping gear provided Washroom facilities: may encounter sitting toilets or squat pots at different times, toilet paper provided, private showers and hot water are available, shampoos will be provided Washing/laundry facilities will be available
(g) Meal plans & food allergies	All meals will be provided. However, the selection of food may be limited at times. Vegetarian option available. The locals are known to eat a diversity of food.
(h) Non-academic responsibilities	None
(i) Degree of isolation	Though geographically isolated sometimes, we will have daily access to electricity, wi-fi, and small convenience stores. Please bring electrical outlet adaptors for your electronics. Medical support is available within ~1.5hour drive at any giving time.
(j) Alcohol & drugs	Alcohol (beer) is permitted on-site during meals and evening discussions. Drugs are prohibited.
(k) Vaccinations/ Insurances	There is no travel advisory for Canadians in Shanxi province. However, as a general precaution, students should have vaccines for TB and Hepatitis B and purchase general overseas' travel and health insurance.
(l) Social Situations	Taiyuan is a medium-sized city in China of about 4 million people and there are quite few non-Chinese living and working there. However, if you are a visible minority visiting China, you may occasionally become an object of curiosity, especially in isolated countryside. Don't be scarred, smiling and saying hello is usually sufficient to fend off their curiosity. Students should be respectful of each other and be considerate. I will share some social etiquette after registrations are in.
(m) Final comments	Overall, students have reported that the course provides a great opportunity for personal growth, making new friends with like-mind, unique experiential opportunities to see a different country and culture, and learning about biodiversity and its utilization. Like sites in previous years of this course, Taiyuan and its surroundings has an amazing and highly unique history and culture.