

ONPS2186 – Science Project

RMIT University in collaboration with the
International Student Volunteers

The Natural Resources Management Program Syllabus

- **12 Credit Points**

Overview of Course

Awareness of the importance of sustainable management of natural resources has increased significantly in the last several decades as a result of scientific research, media attention, and greater accountability and transparency of exploitative practices at global and regional scales. Local communities, governments, and international organisations have come to recognize that the Earth's natural resources are not inexhaustible and need to be protected and conserved in a proactive manner to ensure fundamental ecosystem functioning, as well as their persistence for generations to come. In support of these objectives, this volunteer course examines contemporary natural and cultural resource management practices and conservation programs through national and international professional experience placements. Students assist local organisations in attaining their specific conservation goals within ethnic heritage sites, protected areas, or managed lands during the volunteer period. This course provides students with the opportunity to: 1) gain hands-on experience working in support of conservation and sustainable management of natural resources; and 2) explore and learn about the host country, its people, cultures, and ecosystems. Through lectures, participatory discussions, exploration, and direct involvement in local conservation and natural resource management projects, this introduces students to issues including sustainable community development, conservation of biological diversity and ecosystems, habitat restoration, threatened and endangered species recovery, and species inventories.

I. Goals

Through exposure to and direct participation in conservation and management programs, students will gain insight into issues of sustainability and ecosystem conservation that are specific to the host country, yet globally significant. They will learn criteria for identifying and assessing the condition

of threatened terrestrial and marine environments, while learning about the challenges faced by human communities who rely on these resources.

II. Project Tasks

Specific tasks undertaken during the project will vary with individual volunteer projects and host country and may include any or all of the following:

- A. Endangered species habitat monitoring and inventories.
- B. Establishing baseline data to promote the sustainable management of cultural and natural resources.
- C. Defining the principles of ecosystem identification, management, and restoration (including removal of invasive species).
- D. Preserving ethnic heritage and historic sites.
- E. Designing interpretive facility resources.
- F. Preparation of sites for ecotourism consistent with conservation of natural systems.

III. Grading & Evaluation

Students are expected to actively participate in all volunteer activities undertaken by their host organisation during the volunteer component of the course. Students will be evaluated based on satisfactory completion of all of the following criteria:

1. Daily journal entries in a field notebook describing student's activities, observations of environmental conditions and environmental management practices, and contacts with local resource persons (25%).
2. Participation in all regular group discussions during the volunteer project, and leadership of one group discussion as directed by the ISV Project Leader (25%).
3. Documentation and evaluation by the ISV on-site Project Leader of results and student performance during the conservation work project (10%).
4. A quality essay describing the student's specific project, and overall cultural and environmental lessons and experiences during the volunteer project (40%).

Please note: On-site grading and evaluation within the host country is the responsibility of the ISV Project Leaders. Grading of essays and the overall assignment of student grades is directed by the

ISV Academic Credit Coordinator/Instructor of Record.

Countries of Work Experience: Australia; New Zealand; Costa Rica; USA/Canada, Thailand, Ecuador.

Instructor of Record: Deanna Mathewson, M.Sc.

Course work: ONPS2186 – Science Project

1. Write a daily field journal (25% of grade)

Description: During the volunteer project, field journals should outline and detail the daily activities (daily tasks, encounters, experiences, and conservation lessons learned), the issues that are presented (environmental and cultural controversies), the practical problems faced by local resource managers and how they are being addressed, and personal reflections on the course's goals, challenges and opportunities. Students will be expected to document in-depth conservation information about their projects. Students should also include notes on the cultural aspects of the host country (i.e. local communities) and their apparent influence on local conservation practices.

Throughout the volunteer project, students are encouraged to record the group discussion topics and their personal reflections on each topic. Project Leaders will provide further guidance and ideas for journal writing. Students are expected to write at least 1-2 pages (A4) of quality journal entries daily. Field journals will be submitted to the Project Leader for grading twice during the project (once each week). This is an academic journal and **not** a personal diary; any personal reflections or entries that are not related to the academic nature of this journal should be kept in a separate private notebook.

Examples of topics for field journal entries during the project are:

- The social and environmental context in which the host organisation operates
- Specific threats to local flora and fauna, habitats, and ecosystems
- Background and conservation goals of volunteer project
- Challenges and successes of the host organisation
- Daily project activities and tasks and why they are necessary or important (how are they beneficial to organism/habitat/ecosystem/community?)
- Description and characteristics of habitats, local flora and fauna encountered

- Life history of organisms under study (where applicable)
- Experiences/interactions with local community members
- Involvement (or lack thereof) of local community members in project maintenance
- Perceived social and economic benefits and environmental costs of tourism activities (if applicable)
- Summaries and further reflections on Group Discussion topics.

2. Group discussions (25% of grade)

Description: There will be a minimum of six group discussions during the volunteer project. Group discussions are scheduled and facilitated by the Project Leader(s) and usually last one to two hours. Discussions are intended to encourage sharing of information and ideas, perspectives, and opinions among students and their ISV Project Leader. It is an open forum for learning that will assist students in accomplishing their personal and academic objectives during the volunteer project.

Discussion topics will cover a broad range of issues relevant to the specific project, host country, activity/location, current events, and conservation at local, regional and international scales. Students are required to attend and expected to actively participate in all group discussions and to lead one discussion. Failure to attend will result in a zero mark for that particular discussion and a significant reduction in the overall grade for this portion of the course.

Prior to departing for their ISV program, academic credit students must research and prepare a topic for leading a group discussion during their volunteer project. Students can choose their own discussion topic but should provide their ISV Project Leader (or the ISV office – email isvaustralia@isvonline.com) with a general outline of the chosen topic no less than one week before departure for the host country. Discussion topics on issues of conservation and/or sustainable resource management that are not directly related to the specific project are permissible, though topics should be broad enough in scope so that each member of the group can contribute to the discussion. This task will be coordinated by the ISV Project Leader. Students are not expected to be “experts” in their project or discussion topic, they are only asked to think intuitively, critically, and creatively about the problems at hand and the potential solutions; and then to communicate these ideas and concepts to their peers. Project Leaders will provide input and guidance to students in shaping their discussion.

3. Evaluation for Conservation volunteer project (10% of grade)

Description: An evaluation form will be completed on each student by the ISV Project Leader at the completion of the volunteer project. Students will be assessed based on their participation, critical thinking, advance preparation, attitude and cooperation during the volunteer project.

4. Write a professional experience essay (40% of grade)

Description: The essay assesses the environmental problems in the region/community visited, the goals of the host organisation, and considers the contribution of the work performed by student volunteers towards those goals. The essay must be written in three sections that describe several environmental and/or cultural aspects of the student's volunteer experience (see outline below). It should place the student's own experiences and observations during the course within the context of local natural resource management and should also draw upon the intellectual resources of the program leaders. Independent research from the primary literature (i.e.: academic, peer-reviewed journal articles) is required to provide background and support where necessary. A minimum of six references from accepted sources (see list below in Tips for Writing a Successful Essay) must be cited appropriately and listed in a bibliography. Other sources may also be included as additional references.

- The essay is due no later than six weeks from the conclusion of the course (42 days from the conclusion of the volunteer project) regardless of the date a student returns home, and deadline extensions will not be granted. Failure to submit your essay will result in an 'F' on your transcript. Essays must be submitted in MS Word format as an attached document to: isvaustralia@isvonline.com.
- The essay should be approximately ten double-spaced pages in length. Section A should make up approximately 40% of the essay, Section B, approximately 50%, and Section C, the remaining 10%.
- Please note that essays will be assessed by the same standards as employed in any university course. Evidence of plagiarism will result in a zero grade for the essay and possible failure of the course. This may also be reported to the accrediting university.

- The essay should contain appropriate citations, a brief introduction and conclusion, and a bibliography of supporting references.

Section A: Problem definition (40% of the essay)

- Describe the ecosystem or natural resource that is under threat.
- Describe the recent, traditional, or historical conditions/practices that constitute the threat.
- Explain how these conditions/practices threaten the resource. Published articles may be useful here.
- Describe the apparent social causes of the threat. For example, unsustainable practices whether legal or illegal, may be the result of poverty or lack of understanding of ecosystem functioning. The causes of the threat may not be immediately apparent but representatives from the host organisation and other local experts can offer an explanation. Students should assess the reasoning behind these explanations through personal observations and with published sources that describe similar threats in other locations.
- How can the threat you described above be reduced or eliminated? What do you think would be the best way to conserve the resource while meeting the needs of the community? Again, published sources will be helpful here.

Section B: Conservation Objectives and Experience (50% of essay)

- Describe the host organisation for which you worked.
- Identify and explain the key conservation objectives of the host organisation's conservation project.
- Describe what your experiences in conservation entailed. How did the work you performed contribute to the project's objectives and conservation of the natural resource? If it did not, why not?
- How do the conservation objectives of the project address the natural resource threat and how do they compare to your own suggestions for conserving the resource? Explain any incompatibility between the project's objectives and your suggestions. How could this be remedied? For example, does a lack of specialised equipment or personnel prevent the host organisation from adequately addressing the threat to the natural resource?

- What were the main resources and/or management tools that were employed to meet the objectives of the project?
- Does the host organisation receive any funding from outside sources? If not, how do they maintain their operations?
- What are the challenges and opportunities for local resource managers? Describe any current conflicts between the host organisation and local communities and discuss the probable motivations of each opposing party. Suggest possible solutions to these conflicts, and address the ramifications for each party if your suggestions were realized.

Section C: Overall Experience and Conclusion (10% of essay)

- What have you learned about conservation from your volunteer experience and related research?
- What have you learned about yourself, your values and your preferences? Identify any changes in attitude and awareness you have taken away with you from this experience.
- Provide a brief synthesis of the volunteer program in terms of the environmental, cultural and personal lessons you have learned.

Tips for Writing a Quality Essay

- Follow the outline (including formatting requirements).
- Use an appropriate (academic) style and tone in your writing.
- Be concise.
- Use appropriate references to support your work (see below).
- Use your field journal as a resource when writing your essay (but do not cite this).
- Avoid using direct quotes from references; paraphrase relevant information from the source.
- Citations within the text should include last name of author(s) and year of source publication (note: for three or more authors, use first author and 'et. al.' in citation).
- List references alphabetically in a bibliography. Include full name of author(s), date of publication, article/book title, journal title, journal pages (also publisher and city of publication for books).
- Be sure to spell out any acronyms used for the first time.
- End the essay with a proper conclusion.
- Carefully proof-read your essay for grammar, sentence structure, punctuation, clarity and flow of ideas before submitting it. Do not forget to spell-check!
- Allow yourself enough time to write a well thought-out and organized essay.
- Take advantage of your Project Leader as a resource person during the course and discuss

ideas for your essay in advance with him/her.

Acceptable sources for **required references** (minimum six):

- Printed or online scholarly books and journal articles (peer reviewed). Examples of potentially useful journals include *Ecology and Society* (an on-line journal), *Restoration Ecology*, *Conservation Biology*, *American Journal of Botany*, and *American Naturalist*.
- University level textbooks
- Published technical and scientific reports by national governments, international organisations (e.g. World Bank, UNEP, UNESCO etc.), non-governmental organisations (e.g. World Wildlife Federation, World Resources Institute, Rainforest Alliance, etc.), or scientific associations or projects (e.g. Human Dimensions of Global Environmental Change).

The following may also be used as reference material **in addition** to the required references:

- Non-academic magazines and web-sites
- Reports from advocacy organisations (e.g. Greenpeace, Sierra Club, etc.)
- Encyclopaedias
- Newspaper articles
- Brochures
- Personal discussions with Project Leaders, project host organisation staff, guides, and other relevant stakeholders

Website links for more hints and tips on writing style:

A Guide for Writing Research Papers, APA style:

http://webster.commnet.edu/apa/apa_index.htm

Guide to Grammar and Style by Jack Lynch:

<http://newark.rutgers.edu/~jlynch/Writing/index.html>