

# Sustainability Studies 12

## Board Authority/Authorized Course

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<b>District Name:</b>	Port Alberni
<b>District Number:</b>	70
<b>Developed By:</b>	Erin Pope/Clayoquot Biosphere Trust
<b>Date Developed:</b>	September 2011
<b>School Name:</b>	Ucluelet Secondary School
<b>Principal's Name:</b>	Carol Sedgwick
<b>Course Name:</b>	Sustainability Studies 12
<b>Grade Level of Course:</b>	11 and 12
<b>Number of Course Credits:</b>	4 credits
<b>Number of Hours of Instruction:</b>	110 hours
<b>Prerequisites:</b>	None
<b>Special Training, Facilities or Equipment Required:</b>	None

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### Course Synopsis:

Sustainability Studies 12 is a hands-on course designed to engage and challenge students interested in sustainability, students wanting to learn more about sustainable development, students wanting to participate in a course that emphasizes experiential learning, students wanting to gain work/volunteer experience with local organizations and for students wanting to learn more about their community and natural surroundings and how we can ensure that what we have and enjoy now is also here for future generations.

This course will begin with an introduction to the concepts related to sustainability and then shift to topics including food security, sustainable development, local ecosystems and relationships people have with their surroundings. Throughout these units, students will be expanding the school garden, learning about local businesses and sustainable practices, working with scientists to learn about local ecosystems, developing naturalist/interpretation skills that could lead to future employment and gaining valuable work and volunteer experience. Students will also have the unique opportunity to develop and implement their own action project (based on individual interests and passions) within the school or greater community.

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## Rationale:

As the world faces a rapidly expanding population, increased resource demand and a changing climate, leaders and policy makers struggle to find solutions. It is our responsibility in British Columbia (and School District 70) to address these challenges and ensure that our students are able to understand the issues at hand and feel empowered to make positive change. We need students to see that they can each take steps to ensure a healthy future for themselves, their families, their community and the environment.

Sustainable actions and solutions are going to become increasingly important and this is our opportunity to lead by example. This course will provide students with a solid background in sustainability concepts and through experiential learning opportunities, will give them the opportunity to put their new-found knowledge and passions into action and be leaders. Experiential learning is beneficial to any student's education and can be especially appealing, and rewarding, to students who do not excel in the more traditional classroom setting. Action projects and volunteer activities will be based on the interests of each individual student, which will allow for personalized and meaningful learning.

By learning about the sustainable practices of local businesses and organizations, as well as learning about the local ecosystems, students will have a greater understanding of their local community and environment. It has been shown that when people know more about something, they feel more connected to it and as a result, care more about maintaining it.

Sustainability Studies 12 is an exciting opportunity for students and our school district to partner with local scientists, business owners, non-profit organizations and government. These connections could lead to employment or give students a better idea of possible career paths. This course will help students put together a toolbox of knowledge, skills and connections to the people in their community.

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## Organizational Structure:

### Curriculum organizers:

Unit	Title/Topic	Time allotment
1	Introduction to Sustainability	15
2	Food Security	25
3	Sustainable Development	15
4	Ecosystems	15
5	People and their Environment	20
6	Civic Engagement and Sustainable Actions	20
		<b>110</b>

## **Unit Descriptions (*and key ideas*):**

### ***Unit 1 – Introduction to Sustainability***

In the first part of the course, students will be introduced to a wide variety of topics, theories, initiatives and people relevant to the study of sustainability. This unit is designed to provide students with the necessary background for the course.

- Introduction to sustainability and global sustainability initiatives
- Ecological and carbon footprints
- UNESCO Biosphere Reserves
- Conduct audits of school sustainability

### ***Unit 2 – Food Security***

Key to the concept of sustainability is food security and food systems. Students will learn about how food travels from the farm to their plate and examine the sustainability of a global food system. They will then investigate the possibilities and benefits of a more localized food system and learn first-hand how to produce their own food. This unit will incorporate the school garden into the course and enable students to plan a garden and grow and harvest their own food.

- Food systems and food security
- Traditional Nuu-chah-nulth foods and harvesting methods
- School garden – planning, planting, harvesting, composting and deciding what to do with the produce
- Participate in a local farm/garden tour

### ***Unit 3 – Sustainable Development***

It is difficult to discuss sustainability without talking about sustainable development. This unit will look at local industries (including logging, fishing, aquaculture and tourism) and examine their past and current practices, in addition to hearing from industry representatives about plans for the future. Students will be encouraged to analyse the sustainability of these practices and investigate possible alternatives.

- Local economic activities
- Be able to detect bias and examine issues objectively
- Tradition Ecological Knowledge (TEK)

### ***Unit 4 – Ecosystems***

In this section of the course, students will learn about their local ecosystems from scientists and researchers working in the field. They will study the importance of biodiversity and healthy ecosystems as well as learn about the impact of human activities.

- Ecosystems and health
- Scientific method
- Biodiversity

### **Unit 5 – People and their Environment**

Studies have shown that children can identify hundreds (if not thousands) of corporate logos but not 10 plants in their own backyard. This unit is designed to connect students with the diversity of life surrounding them. They will be given the opportunity to identify and learn about the local plants and animals and to practice the skills required to be a good interpreter/naturalist. In addition to gaining a better understanding of the wildlife surrounding them, students will be gaining valuable employment skills for jobs relating to eco-tourism, such as kayak guides, parks interpreters, hiking guides and naturalists on board whale watching cruises.

- Hishuk ish ts'awalk - everything is one
- Interpreter/naturalist skills
- Working with local companies to gain work experience and training
- Discovering local plants, animals, geography, history and points of interest
- Preparing for possible future employment opportunities in our region

### **Unit 6 – Civic Engagement and Sustainable Actions**

This component of the course focuses on the students becoming active and engaged citizens not only within their school, but in their community. Students will choose projects to develop and implement that reinforce what they have learned in the course and promote sustainability. Through this, they will have the opportunity to attend council meetings and volunteer with local organizations and businesses. This experiential learning opportunity will encourage students to explore areas of interest and perhaps lead to future, sustainable employment.

- Promote sustainability in collaboration with local organizations/businesses
- Attend council meeting(s)
- Develop leadership and presentation skills
- Gain work experience

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## **Learning Outcomes:**

### **Unit 1 – Introduction to Sustainability**

*It is expected that students will...*

- Explain the concept of sustainability and how it applies at a local, national and global level.
- Describe historical and recent models/initiatives in sustainable development.
- Explain the concepts of ecological and carbon footprints and determine personal footprints.
- Explain how the concept of tragedy of the commons applies to sustainability.
- Calculate baseline school audits on energy, waste, water and/or transportation.
- Describe the UNESCO Biosphere Reserve program and its role in promoting sustainability.

### **Unit 2 – Food Security**

*It is expected that students will...*

- Explain the concept of food security and identify why it is important on a personal, local, national and global level.
- Describe how our food system has changed over time and how this relates to food security and sustainability.
- Identify local, traditional Nuu-chah-nulth foods and describe harvesting techniques.
- Research food that is suitable for growing in winter and summer west coast gardens.
- Demonstrate knowledge of soil preparation, planting, tending and harvesting plants.
- Explain the process of composting and its relevance to sustainability.

### **Unit 3 – Sustainable Development**

*It is expected that students will...*

- Learn about various local economic activities (including logging, fishing, aquaculture and tourism) and analyze their environmental, social and economic significance.
- Identify sustainable approaches to local economic activities.
- Develop critical analysis skills necessary to detect bias in the media, in resources and in what is heard in class.
- Explain the concept of Traditional Ecological Knowledge (TEK) and how it integrates the concept of sustainability/sustainable development.

### **Unit 4 – Ecosystems**

*It is expected that students will...*

- Describe basic ecological systems.
- Describe the various local ecosystems and the importance of ensuring their health.
- Discuss human impacts on local ecosystems.
- Explain the importance of biodiversity and how it relates to sustainability.
- Partner with local scientists/organizations to learn about research being done locally and gain a first-hand account of the scientific method.

### **Unit 5 – People and their Environment**

*It is expected that students will...*

- Explain the Nuu-chah-nulth First Nations philosophy “everything is one” (*Hishuk ish ts’awalk*) and its relevance to sustainability.
- Investigate the importance of being connected to your environment and “loving where you live” in terms of sustainability.
- Identify the common trees, plants and animals found in our local ecosystems.
- Gain experience and practice as a naturalist by working with local professionals and organizations.

### **Unit 6 – Civic Engagement and Sustainable Actions**

*It is expected that students will...*

- Create and implement an action plan/project to make their school or community more sustainable.
- Attend and participate in a local council meeting.
- Volunteer with a local organization and gain hands-on experience with a sustainable, community-based initiative/project.
- Create and implement a plan to reduce personal/family ecological footprint.

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### **Instructional Component:**

*Will include, but not be limited to:*

- direct and indirect instruction
  - experiential learning
  - expert instructor/presenter workshops
  - co-operative learning
  - brainstorming
  - small and large group discussions
  - group work and individual work
  - analysis and evaluation
  - internet and media searches
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## **Assessment Component:**

### ***Summative Assessment***

#### **In-Class Activities – 50%**

*Will include but not be limited to:*

- Assignments and projects
- Presentations
- Group and individual work
- Tests/quizzes
- Participation
- Research and writing

#### **On-site Work Experience – 30%**

- Evaluation by supervisor at chosen organization/business
- Self-evaluation
- Journal/log of experience

#### **Action Project – 20%**

- Development, implementation, completion and evaluation of student-selected project

### ***Formative Assessment***

*Will include, but not be limited to:*

- Exit cards
  - Student reflection journals
  - Observations of student work in progress
  - Student self-assessment
  - Teacher/student conferencing
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## **Learning Resources:**

*Will include, but not be limited to:*

- Texts on sustainability and sustainable development
  - Appropriate articles and readings
  - Scientific journals
  - Internet
  - Guest speakers/experts from relevant organizations and businesses
  - Videos/documentaries
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## **Special Recognition**

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