

**COURSE TITLE: SUSTAINABLE WATERSHED DESIGN PROJECT:
LINKING CLASSROOMS & COMMUNITIES**

NO OF CREDITS: 2 QUARTER CREDITS WA CLOCK HRS: 20
[semester equivalent = 1.33 credits] OREGON PDUs: 20
CEUs: 2.0**

INSTRUCTORS: SUSIE RICHARDS, M.ED. CHRIS BURT, M.ED.
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COMPLETION DATE: 3 months from your registration date

LEARNING ENVIRONMENT:

This course requires assignment responses to be posted in a password-secured ONLINE website hosted by The Heritage Institute.

COURSE DESCRIPTION:

Meaningful Watershed Education provides opportunities for interdisciplinary, collaborative, student centered, inquiry oriented and technology rich learning. This course provides K-12 teachers the opportunity to learn about meaningful watershed education, and engage in the development of their own watershed curriculum. This curriculum will provide students with opportunities to gain skills, knowledge, character and the vision to be productive citizens who contribute to a more sustainable future through learning about and interacting with their own local watersheds and issues impacting those watersheds.

This course is offered by the Washington Watershed Education Teacher Training Program (WWETT) in partnership with NOAA B-Wet Program, Edmonds Community College Learn and Serve Anthropology School (LEAF,) Service, Education and Adventure (SEA,) the OSPI Learn and Serve Office, and the OSPI Sustainable Design Project. Participation in this course also qualifies teachers to become participants in the WWETT Project.

Additional costs of approximately \$25.00 for text *Designer's Atlas of Sustainability*; the other required text is available online at no cost.

LEARNING OUTCOMES:

Upon completion of this course, participants will have:

1. Gained understanding of the whole systems approach to watershed education
2. Explored and integrated a wide range of NOAA lesson plans, resources and programs for use in the development of meaningful watershed curriculum.
3. Acquired the skills to develop strong partnerships with key local stakeholders involved in authentic watershed issues

COURSE REQUIREMENTS:

Participants will complete assignments and post responses online to specific questions outlined for each assignment. Completion of all specified assignments is required for issuance of hours or credit. The Heritage Institute does not award partial credit.

****HOURS EARNED:**

Completing the basic assignments (*Section A. Information Acquisition*) for this course automatically earns participants their choice of 20 Washington State Clock Hours, 20 Oregon PDUs or 2 CEUs (Continuing Education Units), which translates to 20 hours. The Heritage Institute is an approved provider of Washington State Clock Hours, Oregon PDUs, and CEUs by IACET (International Association of Continuing Education and Training, an official national and international certifier of CEUs).

UNIVERSITY QUARTER CREDIT INFORMATION

• UNIVERSITY QUARTER CREDIT OPTION 400 & 500 LEVEL

Teachers may opt to register for two (2) Antioch University, Seattle, 400 or 500 level quarter credits, instead of hours, and will be required to:

1. Complete all assignments for clock hours/CEUs (*Section A: Information Acquisition*)
2. Complete the extra reading/viewing, writing and classroom application assignments specified in the syllabus for the 400 or 500 level credit option (*Section B: Learning Application*)
3. Complete an Integration Paper by answering five (5) questions (*Section C: Integration Paper*)

• REQUIREMENTS FOR UNIVERSITY QUARTER CREDIT

Antioch University Seattle requires 75% or better for credit at the 400 level (Upper Division) and 85% or better to issue credit at the 500 level (Post-Baccalaureate). These criteria refer both to the amount of work submitted as well as the quality of work as determined by each instructor

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|--|-----|
| 1. Completion of Information Acquisition assignments | 30% |
| 2. Completion of Learning Application assignments | 40% |
| 3. Completion of Integration Paper assignment | 30% |

• CREDIT/NO CREDIT (No Letter Grades or Numeric Equivalents on Transcripts)

Antioch University Seattle Continuing Education Quarter credit is offered on a Credit/No Credit basis; neither letter grades nor numeric equivalents will show on a transcript. At the 400 level credit granted is equal to a "C" or better, and at the 500 level credit granted is equal to a "B" or better. This information is stated on the back of the transcript.

COURSE MATERIAL and/or TECHNICAL REQUIREMENTS:

You will need high-speed (DSL) Internet access in order to easily view online resources. Some of the reading materials may be provided in the online course environment as PDF documents, a format readable by computers with Adobe Acrobat Reader. You may download a free copy of Acrobat Reader from our website, if it is not already on your computer.

REQUIRED TEXTBOOK:

- *Sustainable Design Project Teacher Manual* – Wheeler, G., Bergsman, K., and Thumlert, C. (2008) Available through the OSPI Education for Environment and Sustainability Program Office <http://www.k12.wa.us/curriculumInstruct/EnvironmentSustainability/SustainableDesign.aspx>
- *Designer's Atlas of Sustainability* - Ann Thorpe – Available on Amazon for approximately \$25. # ISBN-10: 1597261009 # ISBN-13: 978-1597261005

MATERIALS FEE

- \$25 for *Designer's Atlas of Sustainability* - Ann Thorpe – Available on Amazon.

GETTING STARTED:

- Once you have registered for the course, you will be sent an email that contains the website address, password and course key that you need to access your online course, along with instructions on how to log into the online system.
- The assignments listed in this syllabus are also listed at the bottom of each online course document. Access each assignment and enter your responses online. We suggest that you write your responses in a WORD document and then do a copy/paste function into the Responses box.
- When you have completed all assignments for the course, CLICK the 'ALL ASSIGNMENTS COMPLETED' option. The instructor will be notified that you have completed all assignments.
- The instructor will review your work and enter his/her responses online. You will be notified by email when the instructor has marked the course completed, and you will be instructed to log in and view the instructor's comments. At that time, you can also SAVE a complete copy of the course assignments and responses.

NOTES TO ALL PARTICIPANTS:

- Unlike a live workshop, you are not required to be present (i.e. online) at specific days or time, participants will work at their own pace.
- All responses will be posted online. Large documents or files may be attached as part of your response by using the “Share A File” option.
- To maintain privacy, please do not refer to students in your papers by their actual names, but rather use an alias or designation such as “Student A.”

ASSIGNMENTS for CLOCK HRS/PDUs, CEUs, 400 or 500 LEVEL UNIVERSITY QUARTER CREDIT

A. INFORMATION ACQUISITION

Assignment #1:

- a) Briefly introduce yourself and share your interest in the workshop topic.
- b) Access the NOAA “Ocean Service Education Lesson Library” at http://oceanservice.noaa.gov/education/lesson_plans.html
- c) Read Part I Introduction of the *Designer’s Atlas of Sustainability*.
- d) Read the *Sustainable Design Project Teacher’s Manual* - Preface: Education for Sustainability and Chapter 1: Introduction to the Sustainable Design Project - Goals and Objectives, Sample Projects, Sustainability
- e) From the reading, please respond to the following questions:
 - 1) How has the definition and overview of watershed education and sustainable education expanded your understanding of the need for meaningful watershed education?
 - 2) How do the key principles of watershed issues you’ve discovered in your review of the NOAA watershed website align with any current units or programs you are involved in? If you do not see potential links with existing curriculum, please describe potential ways you could integrate one of these lessons into your currently taught course content.
 - 3) Please describe three to four resources you reviewed on the NOAA lesson library and areas you would focus on based on your current courses / content areas being taught.

Assignment #2:

- a) Read Chapter 2 “Approaches to Learning: Project-Based and Place-Based Learning” and Chapter 3 “Student Engagement and Working as a Team” in the *SDP Teacher’s Manual*.
- b) Read Part 2 “Ecology” in *Designer’s Atlas of Sustainability* textbook.
- c) Access the NOAA “Professional Development” website at: <http://oceanservice.noaa.gov/education/pd/welcome.html>
- d) From the reading, please respond to the following questions:
 - 1) Describe your own experiences as either an instructor or student with Project-Based or Place-Based learning and your feelings about those experiences as an effective pedagogical approach.
 - 2) Do you believe your current school district encourages and supports these pedagogical approaches? Explain how this is demonstrated in terms of your perspectives as a teacher and what strategies you might implement to increase administrative and/or district understanding of the benefits of these approaches.
 - 3) Describe how your understanding of the term “ecology” has expanded as a result of your reading of Part 2 in *Designer’s Atlas of Sustainability*.
 - 4) Describe 2-3 resources you reviewed in NOAA Professional Development website and how those resources could be integrated into your existing curriculum / content focus.

Assignment #3:

- a) Read Chapter 4 “Structuring a Sustainable Design Project” and Chapter 5 “Content Area Connections” in the *SDP Teacher’s Manual*.
- b) Read Part 3 “Economy” from *Designer’s Atlas of Sustainability*.

- c) Access the “Top Rated Water Related Curricula” on the EPA website at:
<http://www.epa.gov/adopt/resources/toprelated.html>
- d) From the reading, please respond to the following questions:
 - 1) Describe your current teaching assignment and, using the grade level examples presented, outline potential project ideas that would align with the curriculum and units that you currently teach.
 - 2) After reviewing the teacher and student tools that are provided in Chapter 4, describe your reaction to these tools in terms of their effectiveness and usefulness for you and your students as a component of a watershed-focused SDP
 - 3) Based on the information provided in Chapter 5, please describe how you would envision a potential watershed-focused SDP that meets 3-4 EALRs and/or GLEs for your current teaching assignment.
 - 4) Describe at least one program outlined in the “Top Rated Water Related Curriculum”
 - 5) Please describe how reading in *Designer’s Atlas of Sustainability* expanded your understanding of how to integrate an economic focus into your watershed project.

Assignment #4:

- a) Read Chapter 6 “Connecting to Community Resources” Chapter 7 “Project Funding and Resources” in the *SDP Teacher’s Manual*.
- b) Read Part 4 “Culture” and Part 5 “Frontiers” from *Designer’s Atlas of Sustainability*.
- c) Access the website: “Pacific Northwest Ecology & Restoration Links to WATERSHEDS, STREAMS, WETLANDS & SALMON at: <http://faculty.washington.edu/wgold/water.htm>
- d) From the reading, please respond to the following questions:
 - 1) After reading strategies for connecting with community partners presented in Chapter 6, describe any existing community partnerships that you could work with on a watershed project potential new community partners in your own local community.
 - 2) Please e-mail the instructor for this course at sea@whidbey.com and request login information to the Sustainable Design Ning Social Networking Site. Once you receive your login information, please go to the site, make a post in the “NOAA B-Wet Grant Project Team” forum, and then visit other forums/areas of the site.
 - 3) Describe potential strategies for funding and resource acquisition you envision for your own projects after reading Chapter 7.
 - 4) Describe the elements of culture that you could envision integrating into your watershed-focused SDP project based on your reading from Part 4 “Culture” in *Designer’s Atlas of Sustainability* and final thoughts and perspective from your reading in Part 5 “Frontiers”.
 - 5) Please review the “Pacific Northwest Ecology and Restoration Links to Watersheds, Stream, Wetlands and Salmon website and discuss resources and potential partners you discovered for development of your own local watershed curriculum.

For those taking the course for clock hours:

Please describe next steps you plan to take to work towards the development of a meaningful watershed project for your classes and students – including a brief outline of the content area, potential community partners and outcomes you would like to see for students and community as a result of the project.

interested in further participation in the NOAA B-Wet Washington Watershed Education Teacher Training (WWETT) program? Contact instructors. Participants will engage in a no cost 2-day marine based workshop aboard the SEA program vessel Indigo offered in participant’s county. In addition, participants who complete this course and engage in the 2-day workshop will become eligible to apply for funding from the WWETT “Teacher Implementation Fund” which will provide funding for substitute teachers and transportation costs to engage their students in field based watershed programs based in the curriculum that they have developed.

This completes the assignments required for Washington Clock Hours, Oregon PDUs, or CEUs.

ADDITIONAL ASSIGNMENTS REQUIRED for 400 or 500 LEVEL UNIVERSITY QUARTER CREDIT

B. LEARNING APPLICATION

Assignment #5:

(Required for 400 and 500 Level)

- a) Choose two of the websites listed in Chapter 9 “Resources for Teaching Sustainable Design”.
- b) Provide a written overview of the content of the sites and explain how the content can be utilized by a teacher to develop effective watershed focused curriculum and programs.
- c) Create a 3-5 page written watershed focused proposal using the Sustainable Design Project “Teacher Planning Tool #1” provided on page 27 of the *Teacher’s Manual*, integrating the resources, tools and strategies you have gained from this course in your proposal.

Assignment #6:

For 400 Level – Complete Part A only

For 500 Level – Complete Part A and Part B

Part A: (400 & 500 Level)

Choose ONE of the following:

- (1) Develop an integrated curriculum to use with your students with a watershed focus and write a 2-3 page paper outlining your process

OR

- (2) Another assignment of your own design that integrates your learning from the course (with prior approval from instructors.)

Part B: (500 Level only)

Choose ONE of the following:

- (1) Interview 4-6 teachers or members of community or governmental agencies/organizations who have been involved in authentic watershed education and/or authentic local watershed issues and describe in a few paragraphs what the major issues are in developing and implementing a watershed project and what they would recommend to a teacher getting started in this work.

OR

- (2) Explore existing literature (a minimum of 3-4 journal articles or online resources) on how to assess student learning when the curriculum involves these hands-on / real world watershed projects. Then describe how you would create effective assessment and evaluation tools for the curriculum you will develop.

Continue to the next section for additional assignments required for University Quarter Credit

ADDITIONAL ASSIGNMENTS REQUIRED for 400 or 500 LEVEL UNIVERSITY QUARTER CREDIT

C. *INTEGRATION PAPER*

Assignment #7: Integration Paper (Required for 400 and 500 Level Credit)

Complete the requirements for university quarter credit by submitting a final Integration paper (2-3 pages). A heading is required; please use the following format.

Your Name:	Date:
Course Name:	Course Number:
# of Credits:	Level: (400 or 500)
Advisor Name:	

Respond to each of the 5 questions below. (First list the question and then write your answer)

1. What did you learn vs. what you expected to learn from this course?
2. What aspects of the course were most helpful and why?
3. What further knowledge and skills in this general area do you feel you need?
4. How, when and where will you use what you have learned?
5. How and with what other school or community members might you share what you learned?

INSTRUCTOR COMMENTS ON YOUR WORK:

- **Be sure to mark the “All Assignments Completed” section in the online course environment as this will notify the instructor that you have completed the course.**
- Upon receiving notification of your completion of all course assignments, your instructor will provide written comments online.

QUALIFICATIONS FOR TEACHING THIS COURSE:

Chris Burt M.Ed. and **Susie Richards M.Ed.**, certified instructors and former classroom teachers, have been working in the adventure education and service-learning field for the past 16 years. Both are area trainers and coordinators for Service Learning Washington, a program of the Office of Superintendent of Public Instruction, Learn and Serve Office. Chris and Susie also are fellows in the Washington State Consortium for Contextual Teaching and Learning.

SUSTAINABLE WATERSHED DESIGN PROJECT BIBLIOGRAPHY

Books

Designer's Atlas of Sustainability – Ann Thorpe. (2007), Island Press. # ISBN-10: 1597261009
ISBN-13: 978-1597261005
Available on Amazon for approximately \$25.00

Sustainable Design Project Teacher Manual – Wheeler, G., Bergsman, K., and Thumlert, C. (2008)
Available through the OSPI Education for Environment and Sustainability Program Office
<http://www.k12.wa.us/curriculumInstruct/EnvironmentSustainability/SustainableDesign.aspx>

Websites

EPA Water-related resource
<http://www.epa.gov/adopt/resources/toprelated.html>

NOAA "Ocean Service Education Lesson Library"
http://oceanservice.noaa.gov/education/lesson_plans.html

NOAA Professional Development
<http://oceanservice.noaa.gov/education/pd/welcome.html>

Pacific Northwest Ecology & Restoration Links to WATERSHEDS, STREAMS, WETLANDS & SALMON
<http://faculty.washington.edu/wgold/water.htm>