

Course Outline

ENVR 506 - Analytical Thinking and Communications

Faculty:

Faculty of Social and Applied Sciences

School:

School of Environment and Sustainability

Program:

MA/MSc Environment and Management

Course Title:

Analytical Thinking and Communications

Course Number:

ENVR 506

Credits:

3

Calendar Description

Introduces analytical thinking and rational argument in the context of professional environmental practice. Illustrates how to identify vague and ambiguous concepts, fallacies and other features of weak arguments in the work of others, and how to avoid these weaknesses in your own work. Addresses how to build strong arguments. Examines the different requirements of evidence and reasoning for three basic 'cases' or kinds of complex argument: fact cases, judgment cases and policy cases. Learners will practice several steps in organizing arguments for professional technical writing which can also be applied to academic study and to writing a thesis.

Course Information

Instructor

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Course Administrative Contacts

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Start and End Dates:

September 2, 2013 - November 8, 2013

Duration:

10 weeks

Delivery Method:

Blended

Standard Course Hours:

33 hours per credit

Credits:

3

Co-Requisites:

ENVR 505 and ENVR 530

Course Overview

This course is centered on an on-campus residency, with multi-week pre-residency and post-residency assignments. This course will provide you with a foundation for producing professional and scholarly work. It introduces versatile and productive approaches to thinking and reasoning for the professional workplace, and skills are that you will need during graduate study in general and for preparing a thesis in particular. The course will address basic themes of analytical thinking and will focus on approaches to creating fair, organized and rational discourse called 'argument.' You will learn to recognize the features of strong and weak arguments in the work of others and to create strong arguments yourself. You will consider the kinds of evidence and reasoning that apply to three types of complex argument, or 'case', common encountered professional work: cases of fact, cases of judgment and cases of policy.

You will examine the nature of decision-making, looking at a particular class of argument in which different alternatives are considered according to different criteria, and then deciding which alternative to select. You will also apply analytical thinking to self-directed academic learning. Several tools and approaches will be introduced to help you organize your reasoning in formal written documents, including professional reports (and your thesis!).

During this course, you will participate in class presentations, breakout sessions, and team exercises. You will complete an individual reading assignment prior to the residency, team and individual assignments during residency, and an individual written assignment post-residency.

Readings & Resources**Required Textbooks**

Strunk, W. & White, E. (2000). *The elements of style. 4th Edition*. New York: Longman

Weston, A. (2008). *A rulebook for arguments*. (4th ed.). Indianapolis, IN: Hackett Publishing Company

Please see the [Readings and Resources book](#) for a detailed list of course resources.

Learning Outcomes

Learning Outcome

1. Communication

1.1 Produces effective written material

Criteria

1. Material is organized coherently and concisely; the reader can easily identify main points and follow the sequence of ideas
2. Text is legible, error-free and conforms to APA formatting and citation conventions.
3. The purpose of written material is made clear and the content, style and structure of the material is consistent with the purpose.
4. Appropriate evidence and lines of reasoning are used to support conclusions.
5. A five-part argument is effectively constructed.
6. Sources of ideas and information are identified appropriately.

2. Knowledge

2.5 Assesses the scientific and technical scope of issues or problems as they apply to environmental sustainability and management.

1. Identifies major features of arguments, concepts, weak and strong reasoning, thinking and learning, decision making, and different types of cases.
2. Identifies and uses appropriate evidence and lines of reasoning for different kinds of complex argument: fact cases, judgment cases and policy cases.

4. Critical Thinking

4.1 Applies critical thinking to the integration of knowledge and practice

1. Uses facts, claims of value and lines of reasoning that are appropriate to the topic, context and argument being made.
2. Applies critical analysis to concepts, assumptions, claims and arguments put forward by others. Can identify the structure of an argument.
3. Creates an effective argument of the appropriate type (fact, value or policy) for the context and audience.
4. Builds argument effectively into a technical document for a professional audience.

Assessment Matrix

Assignment	Due Date	1.1	Learning Domain 2.5	4.1	Total Value
Pre-Residency Assignment: Reading and Writing Assignment (Individual)	Sept 29, 2013				Ungraded
Assignment 1: Short Argument and Analysis (Team)	Oct 3, 2013	5%		5%	10%

Assignment	Due Date	1.1	Learning Domain 2.5	4.1	Total Value
Assignment 2: Analyze an Argument (Team)	Oct 8, 2013		5%	5%	10%
Assignment 3: Prepare a Five-Part Argument (Individual)	Oct 25, 2013	10%	5%	5%	20%
Assignment 4: Final Post-Residency Written Assignment (Individual)	Nov 10, 2013	10%	20%	30%	60%
Totals		25%	30%	45%	100%

Assignment and Evaluation Descriptions

Pre-Residency Assignment: Reading and Writing Assignment (Individual)

Several short readings provide an introduction to argument and technical writing, and will orient you to what is to come. You will write two short items, an environmental autobiography (500-1000 words) that describes your background and interests in the environment and a short plan for your RRU education (500-1000 words), as well as you can anticipate at this early date. We will draw upon these two items during the first week of residency classes.

Assignment 1: Short Argument and Analysis (Team)

Your team will examine a controversial quotation from a government agency which recommends dumping toxic sludge into a river. Create a brief letter (200-300 words) from an environmental NGO, laying out their response, in the form of an argument. In a separate document, identify the major features (the structure) of the agency's argument (use a diagram).

Assignment 2: Analyze an Argument (Team)

Your group will make a detailed analysis of the structure of the argument about ecosystem preservation presented in a scientific journal article by Gerry Franklin. Identify its key features and the argument structure used by the author, and answer a series of questions related to its structure (1000-1200 words plus diagram).

Assignment 3: Prepare a Five-Part Argument (Individual)

Prepare a structured argument, using the five-part format, to present a case to a local city council advocating that they use a combination of nature's services for water filtration instead of building a new water treatment plant (800-1000 words).

Assignment 4: Final Post-Residency Written Assignment (Individual)

In the final written assignment, done after residency, you will answer several questions, or create arguments, on specific topics that permit you to revisit and review the major ideas in the course. The assignment requires that you employ major features and practices of analytical thinking and argument construction, and consider their usefulness, strengths and weaknesses in learning and professional practice (about 3000 words).

Unit Descriptions

The course has pre-residency assignments, a residency on campus, and a post-residency assignment. You will begin by considering fundamental ideas of analytical thinking. You will learn to construct an argument (which for us does not mean quarrel) as a carefully reasoned presentation that leads to specific conclusions for a target audience, using the building blocks of argument. These include definitions and concepts, kinds of reasons, lines of reasoning, and particular kinds of conclusions. After being introduced to basic ideas you will work to understand, and to practice, the steps and skills to create arguments that your audience finds persuasive. Different patterns of reasoning are most appropriate for the three particular kinds of complex cases you will usually make: cases of fact, cases of judgment and cases of policy. You will explore the strong relationship between the skills of analytical thinking and argument and what many people think is a different field: decision making. The class will address some specific skills that link reasoning with professional documents and with the writing of your thesis.

The topics and materials in this course are integrated, but could be presented as two units of approximately equal length. The topics broadly lead from unit one to unit two. The pre-residency reading assignments introduce some guidelines for writing that might help in your other pre-residency assignments, and provide a background to some ideas about argument. The pre-residency written assignments document personal information that we will draw upon in class 4. The post-residency assignment provides an opportunity to review and consolidate your understanding of the main ideas from all parts of the course.

Unit Descriptions

Unit 1 Foundations of Analytical Thinking

Each class will address a major theme, as listed below. By considering these ideas and practicing relevant skills, you will improve your organized reasoning and your ability to make a strong case to your colleagues. You will look at how arguments work and consider how learning about argument meshes with overall goals to expand your professional expertise in the environmental field. Classes will include organized presentations and frequent short breakout-sessions with your colleagues, in which you will discuss questions related to the material. You will participate in longer breakout sessions in which you will discuss various small group exercises and draft arguments.

Class 1: Introduction to argument

- Definitions of argument and organized reasoning
- Argument for a specific analysis
- Argument in professional work
- Basic reasoning and argument analysis
- Building blocks: concepts and meaning

Class 2: Identifying and avoiding weak arguments

- Flaws in the concepts: definitions, vagueness and ambiguity
- Tools for clarity
- Flaws in the statements: universals and qualifications
- Five kinds of fallacy

Class 3: Writing a structured five-part argument

- A simple structure for a complete argument
- Practice and review
- Potential applications

Class 4: Reasoning and its link to learning and building professional expertise

- Psychology of learning and understanding
- Metacognition and expertise
- Relationship of analytical thinking to learning
- Relationship of analytical thinking and learning to professional expertise
- Steps and tools to maximize thinking, learning and expertise
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Assignments due during Unit 1: Assignment 1 (short argument and analysis).

[Unit 1 Readings and Resources](#)

Unit Descriptions

Unit 2: Building and Communicating Strong Arguments

In this unit you will apply the basic tools of argument to larger professional tasks: preparing professional reports and oral presentations that combine a variety of technical data and often lead to policy recommendations. Each class includes an organized presentation and short break-out sessions to discuss questions that build upon material in the presentation. Larger in-class activities include creating and debriefing a complex 'case', and a group decision-making activity. During other in-class activities you will practice analyzing the structure of a complex argument, which will lead to a similar team assignment. At the end of the unit you will learn ways to link thinking and writing arguments with the mechanics of writing technical reports (and your thesis!).

Class 5 & 6: Patterns of reasoning and how to build a strong argument

- Communication for a specific audience
- Features of a strong argument: acceptability, relevance and adequacy to the audience
- Analysis of arguments in the written work of others
- Five kinds of reasoning

Class 7 & 8: Complex professional arguments are 'cases'

- Patterns of complex argument: three kinds of cases
- The 'fact case'
- Common kinds of factual cases
- Usual patterns of evidence and reasoning
- Common errors and ways of building strength

Class 9: The 'judgment case'

- Common kinds of judgment case
- Usual patterns of evidence and reasoning
- The many difficulties with values and judgment cases
- Common errors and ways of building strength

Class 10: The 'policy' case

- Common kinds of policy case
- Usual patterns of evidence and reasoning
- Common errors and ways of building strength

Class 11 & 12: Reasoning, argument and decision making

- Argumentation and decision making: their separate worlds and their common ground

- Common patterns of decision making and sources of errors
- Steps to more effective decision making
- Participatory decision making

Class 13: Assembling arguments in technical documents

- Identification of the audiences for a professional document
- Six ways to strengthen your case in a professional report
- Revision of research and writing processes to incorporate argument
- Use of the 'outline view' program to help build structured arguments
- Special considerations for your thesis

Class 14: Review

- Major points from the course
- Review of linkages between argument, thinking and writing
- Questions and follow up

Assignments due during Unit 2: Assignment 2 (analyze an argument), Assignment 3 (prepare a five part argument) and Assignment 4 (multiple question assignment).

[Unit 2 Readings and Resources](#)

Policies and Guidelines

You are responsible for knowing university and program policies and guidelines that govern your work in this course:

- [RRU Academic Regulations](#) including course withdrawals, academic probation, and formal grade appeals
- [RRU Grading Policy](#)
- [RRU Student Rights & Responsibilities](#)
- [RRU Copyright Guidelines](#)

Please note: Course discussions can be viewed by your cohort classmates, instructors and teaching assistants, RRU program administrative staff, management, librarians and IT staff. RRU staff have signed confidentiality agreements before being allowed access to your discussions. In accordance with BC privacy legislation, you will be notified if anyone else is requesting permission to view your discussions .

Please note: If your course uses applications outside the Royal Roads University online course platform (e.g., wikis, blogs, etc), please be aware that data from these applications may be stored on a computer server based in the United States and therefore may be subject by law enforcement officials under the U.S. Patriot Act.

Current Royal Roads University academic regulations will be applied as they exist at the start of this course.