**Assignment 1: Energy and Water Audit**

This assignment is due at the beginning of lab on week 4.

Use the methodologies described below to track how much water and energy you use in a week. After you complete tracking your use, please analyze that use for how close it resembles a typical week. For example, do you take more showers in hot weather or use your car more in the winter than the summer. For each entry you will have three columns of results: the value from the audit, comment on the factor that represents from a typical week, and an estimated value for an average week over the whole year.

**Water Audit:**

Watch the video for ideas on how to save water. This video was made for Arizona which has much less water than Oregon, but the principles are the same.

<http://wateruseitwisely.com/toolkit/>

Calculator for a simple guided audit.

<http://www.saveourh2o.org/water-use-calculator>

Calculator with links to pages that explains how the volume per day was calculated.

<http://www.home-water-works.org>

In particular look at the pages that describe how the calculator works and the tab Indoor Water Use. These provide good information on how much each appliance is assumed to use.

**Energy Audit**

Energy audits are usually thought of for your home, not total energy use. That was covered in the footprint worksheet.

For a home energy audit, please see:

<http://energytrust.org>

follow the path “Residential” tab/evaluate your home/online evaluation

You will have to give them an address to be able to complete the audit, but it is very valuable information for saving energy and money.

For a complete energy audit including all of your other activities see:

<http://environment.nationalgeographic.com/environment/energy/great-energy-challenge/personal-energy-meter/>

<http://www.epa.gov/climatechange/ghgemissions/ind-calculator.html>

This calculator is much more specific and uses your electrical or gas bills for the computation. If you don’t have those it’s difficult to use this one.

Both of these calculators give tons of CO2 per year rather than energy units. We will discuss the conversion between different energy units and tons of CO2 emitted in Week 3.

**Assignment components and rubric:**

The written assignment should contain four elements (intro, water audit, energy audit and discussion) and your results to go with these. Each paragraph should probably be at least 4 or 5 sentences long, just as a guide. The overall paper should tie together and the writing style should be concise and not conversational.

|  |  |  |  |
| --- | --- | --- | --- |
| Component | Good (2 points) | Passable (1 point) | Deficient(0 points) |
| Introductory statement | Provides clear overview with reasons for doing these audits | Sets up exercise in  | Repeats instructions, but nothing added. |
| Water audit | Describes how water audit was done and gives values for major categories of water use. | Reports data but is unclear about how it was collected or what it means. | May contain some data but it is incomplete or not explained well enough. |
| Energy audit | Describes how energy audit was done and gives values for major categories of energy use. | Reports data but is unclear about how it was collected or what it means. | May contain some data but it is incomplete or not explained well enough. |
| Discussion | Reviews major points and draws out useful or insightful information. \* | Restates points already made or doesn’t elaborate on key questions. | Doesn’t seem like any thought was given to the meaning of these audits. |
| Writing style, grammar and spelling. | Clear and concise writing style that allows reader to get the main points in one pass. No major grammatical or spelling errors that get in the way of the reader’s comprehension. | Could be betterorganized or slightly confusing style. May have spelling or grammar errors that interfere with reader’s ability to concentrate on the subject matter. | Poorly written or with many errors. |

\* A good way to do this is to explain how this was meaningful to you, i.e. what you learned that you can use.