**COMP 3540 Advanced Web Design and Programming**

**Seminar/Lab #10**

**AJAX and JSON**

1. **Learning outcomes**

* How to use AJAX for dynamic partial update
* How to prepare a JSON file and send it using a server-side script

1. JSON and AJAX

* Here is an example of course list.
  + A course
    - Major – COMP
    - Number – 4620
    - Title – Web-based Information Systems
    - Institution – TRU
    - Year – Winter 2016
  + A course
    - Major – COMP
    - Number – 3540
    - Title – Advanced web design and programming
    - Institution – TRU
    - Year – Winter 2016
  + Another course
    - Major – MATH
    - Number – 2120
    - Title – Linear Algebra
    - Institution – TRU
    - Year – Winter 2016
  + More courses …
* Here is what you will do today.
  1. Write a JSON file for the above course information. You SHOULD have an array of objects in the file. Note that JSON data parser does not allow single quotes. You should use the correct JSON file extension – ‘.json’.
  2. Write a client program that uses AJAX to retrieve the above JSON file from a server by sending the filename.
  3. The client program receives the JSON content from the server, and displays it within a table. The code SHOULD be general, without assuming fixed number of courses and number of properties.
  4. Write a PHP program to send a JSON file. This PHP program will get the filename using the HTTP ‘get’ or ‘post’ method.
* You can learn from the 2nd example in <http://www.w3schools.com/json/json_example.asp> how to use header() to send JSON data.

Example:

header("Access-Control-Allow-Origin: \*");  
header("Content-Type: application/json; charset=UTF-8");

* You can use file\_get\_contents() in <http://php.net/manual/en/function.file-get-contents.php> to read entire file into a string.

Example:

$content = file\_get\_contents($filename);

1. Assignment

* Complete the program in 2), upload to cs.tru.ca, and submit the link on cs.tru.ca by email WITH a JSON file name.
* Due: 9:00 PM, March 24, 2016. Any late submission will not be accepted for sure this week.
* Total marks: 5
* You should not copy any code from your friends. Your code will be closely examined.
* You should not update the application after you submitted. The information of any update of a file/directory will be left on CS, and I can check the last update date and time.
* The evaluation will be usually one of ‘pass’, ‘half-pass’, and ‘fail’. Most incomplete applications will get ‘fail’. **Any application that crashes will get ‘fail’.**