EuroTour 2011: CSC 101 -- Wake Forest University

Course Description:  **CSC 101. Overview of Computer Science.** (4h) Lecture and laboratory. An introduction to the organization and use of computers. Topics include computer architecture, systems, theory, logic, programming, the Internet, multimedia, and ethical, legal, and social issues. Does not count towards the computer science major or minor. Lab - two hours. Fulfills a Division 5 divisional.

**Professor:** Dr. William Turkett - Manchester 240, 758-4427, turketwh@wfu.edu

**Class Webpage:** [http://www.cs.wfu.edu/~turketwh/eurotour/](http://www.cs.wfu.edu/~turketwh/eurotour/)

**Textbook:** You will be provided a textbook for the course (“The Pattern on the Stone” by Daniel Hillis. Please bring it with you on the trip (it’s small!). Relevant readings will be assigned from the text, with additional readings provided in paper or electronic format. Please also bring a small bound notebook or journal specifically for CSC 101 assignments.

**Grading Scale:** Standard 10-point scale, with an ending 0-2 being a − grade and 7-9 being a + grade (i.e. 82 is a B-, 85 is a B, and 87 is a B+).

**Academic Integrity:** All work should be done independently by each student. Violations of the honor code in completing academic work will be referred to the University Judicial System. Students should work independently on their research paper (in evidence gathering and writing).

**Learning Assistance:** If you have a disability that may require an accommodation for taking this course, please contact the Learning Assistance Center (758-5929) before leaving for Europe.

**Course Objectives:** The EuroTour version of CSC 101 will offer each student the chance to use the European setting and the student’s role as an independent traveler as a framework in which to enhance their learning of the core concepts and skills behind advanced computer and technology use.

The primary focuses of the class will be:

- To understand the history of the development of computer technology and Computer Science as a field, and the rich role Europe played in this history
- To understand the utility and risks of modern technology
- To examine the differences in Europe and US attitudes, laws, and policies on social, legal, and ethical technical issues
- To exploit the traveling aspects of the tour as a practical motivation for learning digital media skills
Because the above topics cannot be fully appreciated without an understanding of core technical concepts, background material, such as computer architecture, software design, digital media representations, and networking, will be covered. Finally, the student will be challenged to develop an individually-completed research project that demonstrates a rich understanding of a selected topic from the course.

**Course Format and Requirements:**

* [Classes] Organized visits to science, technology, and cultural museums listed below. Promptness, attendance, and participation are mandatory. You will be expected to complete pre-trip readings before each visit and prepare two relevant questions for each visit based on these pre-trip readings. [15% of grade]

* [Homeworks] Maintenance of a journal that contains short answer responses to questions that are handed out on the train as we leave each city and maintains a record of assignment completion. Questions and assignments will be relevant to the material covered during organized visits or assigned as readings for that city, and will test both factual material and ask for your individual reflections. [17.5% of grade]

* [Labs] Completion of labs that correspond to the readings and site visits. Labs will be relevant to the material covered during organized visits or assigned as readings for that city, and will allow hands on experiences with the material [17.5% of grade]

* [Labs] Creation of a digital portfolio. Each student is responsible for creating at least a) one digital video between 3 and 5 minutes long, b) a set of 3 digital photographs, and c) one 3 to 5 minute long audio podcast. You may also be asked to participate in group digital activities while on the trip (as aspects of the lab portion of the course). More detailed information can be found in the “Digital Portfolio” section below. [12.5% of grade]

* [Independent Research] Completion of three independent visits, which must be to significant museums or cultural sites outside of the organized visits listed below and approved by Professor Turkett. You should produce a journal entry of approximately two pages addressing the questions listed in the section “Independent Visit Records” below for each visit. Note that these questions may require some work before, during, and after each visit. While other students in the course may visit the same museums at the same time, your journal responses must show individuality in analysis and interpretation. [17.5% of grade]

* [Independent Research] Final paper addressing one of the topics listed below in the “Final Paper” section, using both bibliographic research and first-hand observations (keep your journal handy). Progress on your personal research will be addressed at various points throughout the trip and should be maintained in your journal. This paper should be completed and emailed to Professor Turkett (turketwh@wfu.edu) by August 1, 2011. [20% of grade]
Organized Group Visits (As Of 4/27/2011; may be revised with visits added for additional cities)

Amsterdam:
   Trip: Van Gogh Museum
   Topic: Computers and Art, Artificial Intelligence
   Visit Type: Group Travel, Independent Visit; Group Discussion Pre-Visit

Paris:
   Trip: Musée des Arts et Métiers
   Topic: History of Computing, Modern Technology
   Visit Type: Faculty-Led

Florence:
   Trip: Center for Contemporary Culture
   Topic: The Modern Digital World, Ramifications on Society (Privacy, etc)
   Visit Type: Faculty

Budapest:
   Trip: Terror Haza
   Topics Covered: Information, Privacy, Technological Risks
   Visit Type: Group but Independent; Group Discussion

Berlin:
   Trip: Deutsches Technikmuseum Berlin
   Topics Covered: History of Computing, Computer Programming
   Visit Type: Faculty-Led

London:
   Trip: Bletchley Park
   Topics Covered: History of Computing, Cryptography, Algorithms
   Visit Type: Faculty-Led

   Trip: The Science Museum (South Kensington)
   Topics Covered: Modern Digital World, Networking, History of Computing
   Visit Type: Faculty-Led
**Independent Visit Records:** The purpose of the “Independent Visits” component of the course is to have you think about how ubiquitous information availability affects how we interact with the world. For this class, you will be considering how museums and cultural sites are using the World Wide Web and information devices in their advertising and fulfillment of their cultural mission. For each visit, you should do the following:

**Before the visit:**
Review the websites for the museum, as well as sites such as flickr, youtube, twitter, and facebook. Record in your journal the following about their online presence:

a) Is it primarily just a source of information, or does it provide significant interaction capabilities?

b) What is the social media presence of the museum/site? Does it have a facebook page, or post tweets about goings on at the museum? If so, how “popular” is the site (by number of Facebook fans, twitter followers, etc)?

c) Record whether or not the museum provides information that actually enhance your museum visit (such as podcast tours) available on the website. If the enhancements are something your personal technology can support, download example information to your personal device to explore on your visit.

**During the visit:**

a) Record which (if any) types of technological enhancements are provided at the museum/site (examples might include: audio tours, downloads to your Ipods, text for more information, etc). You may need to ask at the information desk what options they have if you couldn’t find it on the website.

b) If at all possible, in at least one museum/site, take advantage of a technological enhancement. Record your thoughts on its ease of use, its contribution to your understanding, and whether or not it enhanced or distracted from your experience.

c) Record whether or not others are taking advantage of the technological enhancements and their reactions to it.

**After the visit:**

a) Review your trip to the museum and thinking critically, describe, in detail, an alternative use of technology which you feel would have enhanced your visit to that particular site.

b) Describe, within the context of what you are learning in class, what types of hardware/software/networking you feel may be required to support these mechanisms (cont. on next page)

Remember to have Professor Turkett sign off that a museum or cultural site is appropriate before starting your search process.
Digital Portfolio:

I will make available an inexpensive digital video device, digital camera, and hand-held digital audio recording mechanism if you want to check them out for a particular city. Feel free to use your own devices (however, if your device produces movies in a format not supported by the software available on the trip, you may be requested to re-create with the group device or to delay submission of that assignment).

For each student, these materials should be generated across three different cities (such as a video in Amsterdam, photos in Paris, and an audiocast from Venice). Lab materials and manuals will guide you through technical manipulations of these digital media format. At least one of these three forms of media must describe or present something about the unique culture of the city (i.e. do the Danes have a maternally driven society, and if so, why?) Bonus points (up to 2 total) can be obtained for actively including city natives in your video or audio media, such as interviewing a native Amsterdam student if you are shooting video in Amsterdam.

There may also be assignments where you are asked to participate in a digitally-based activity, such as posting photos on Flickr and understanding the various forms of licensing of digital information made available, or tagging your fellow student’s photos to demonstrate ideas about meta-views of information.

Final Paper:

To complete the class, you will also be required to write a research paper that addresses one of several broad questions that I pose. These questions are all amenable to being researched while participating in the European travel experience.

Questions of Interest:

Critically gather evidence for and examine whether a modern digital divide exists across different parts of Europe, by examining ease of Internet access, use of modern banking technology (credit cards vs cash only), mobile phone distribution through the population, and related variables and evaluate your findings within the context of different political, economic, and/or social structures. Discuss with city natives and fellow travelers when possible to obtain insights.

Critically analyze the early history of computing, from the 1930s to 1960s, and discuss, in depth, how politics and economics were major influences on the original growth of computing and the Internet.

Critically gather evidence on and review the effects of government control and manipulation of information in Europe, discussing at least WWII, the Communist Era (post WWII to 1989), and today. Place this alongside a discussion of how the Internet affects information propagation today and whether or not governments are still capable of asserting information control.
Gather evidence on and compare and contrast how technology has been integrated into the college-level educational systems in Europe, and compare it to how technology has been integrated into your educational experience at Wake Forest University. Discuss with city natives and fellow travelers when possible to obtain insights.

Upon returning home, you should undertake additional research to address your selected question. Using Internet articles, library resources, and email/personal discussions with me (I’ll be on campus during the 2nd half of the summer), you should develop and write a well thought out research paper that fully addresses your question and which puts into context the question, the data you gathered on the trip, the class discussions when appropriate, and any post-trip resources which you have found.

The paper will be judged on writing style and technique, the successful addressing of the research question, and, importantly, **the successful demonstration of having completed and learned from unique European experiences designed to help you answer the question**.

This paper should be 4-5 pages, single spaced, with 1 inch margins and 12 point font, and should be completed and emailed to Professor Turkett (turketwh@wfu.edu) by August 1, 2011.