

FIRST YEAR SEMINAR COURSE PROPOSAL
UNIVERSITY OF MARY WASHINGTON

Use this form to submit **FSEM 100 topics** courses for review **or** any **other existing course** that you wish to have designated to meet the first year seminar requirement.

COURSE NUMBER:	FSEM 100		
COURSE TITLE:	INVENTIONS THAT ROCKED THE WORLD		
SUBMITTED BY:	Stephen Davies	DATE:	1/18/2014
<i>This course proposal has the department's approval. (Put a check in the box to the right.)</i>			✓

COURSE DESCRIPTION. In the space below, provide a one to two sentence description of this class. The description will be entered in Banner, and will also be used in other publications about the first year seminar program (such as the "Eagle Essentials" booklet).

Through a study of profoundly world-changing historical inventions, as well as some science fiction compositions that have envisioned other speculative technologies, we will explore both the beneficial and disruptive effects of human innovation.

RATIONALE. Include short statement addressing how this course meets the FSEM's basic components and new student learning outcomes (see FSEM call above), and why this course should be approved to meet the FSEM General Education requirement.

This course will involve an open-ended look at some of the greatest and most influential inventions in history -- gunpowder, the printing press, and the World Wide Web, to name a few. We will learn techniques for locating and assessing both contemporary historical reports about these inventions, and also reflective analyses by commentators. The goal is to assess their impact on culture, economics, worldview, political balance of power, and other spheres. It will be an interdisciplinary endeavor with no easy answers. Over the course of the semester, we will gain perspective and expertise on how to evaluate the potential effects of future technologies and understand how they can be used both for good and harm.

Each student will present an overview of and lead discussion on one "invention of the day," which will help them develop both solo presentation skills and group interaction skills. This will involve preparatory information seeking, selection of reading materials for the class, and formulation of discussion questions. Additionally, students will be interacting online throughout the semester by composing and commenting on others' blog posts. These semi-formal writings -- addressing historical inventions as well as fictitious ones from our sci-fi readings -- will be graded for cogency of argument, clarity, and style. Students will receive written feedback about a small number of selected posts, and have an opportunity to revise them.

SYLLABUS. *Attach a course syllabus.*

SUBMIT this form and attached syllabus **electronically as one document** to **John P. Broome** (jbroome@umw.edu). All submissions **must** be in electronic form.

FSEM 100 – Inventions That Rocked the World

Fall 2014

Tuesday and Thursday 2-3:30pm, Trinkle B39

Associate Professor Stephen Davies

Contact Information:

- Phone: 540-654-1317
- Email: stephen@umw.edu
- Office: Trinkle B22

Office Hours:

- Monday 2:30-4:00
- Wednesday 2:30-4:30
- Friday 3:00-4:30
- Others by appointment

Summary: Through a study of profoundly world-changing historical inventions, as well as some science fiction compositions that have envisioned other speculative technologies, we will explore both the beneficial and disruptive effects of human innovation.

What's a seminar?

A seminar is an open-ended group investigation on a topic that is interesting but not yet well understood. There are no cut and dried answers, and often the questions aren't even perfectly defined yet.

It's not a lecture. I'm not going to be standing in front of the class disseminating truths to you. That's partially because neither I nor anyone else knows for sure what the truth *is* at this point. We're still in the process of discovering that. It's also because "truth" is a bit of a slippery notion in regards to what we'll study. There is a wide range of different tenable positions on many aspects of our theme, and our goal is to ferret out, identify, articulate, scrutinize, and ultimately evaluate those positions. Some will be more compelling explanations under certain shades of the light, and final judgments about which are the most accurate "truths" will vary by individual.

Approaching all this will involve more than the mere assimilation of facts. Facts are indeed precious commodities that we will seek and guard carefully. They are the "knowns" on which we will try to hang interpretations. But the fundamental questions we'll be addressing lie in the nebulous areas currently "in between" the facts. Our job is to probe around in the darkness, taking advantage of what light exists, in the hope of spreading that light and uncovering more truth.

Our seminar will:

- utilize active, discussion-based, participatory learning;
- be exploratory in nature, rather than just presenting conclusions;
- have students read primary sources, not simply textbooks;
- have students synthesize material from multiple sources to develop their own views on the topic; and
- be capped at 15 students.

What are primary sources?

“I have found as a tutor in English Literature that if the average student wants to find out something about Platonism, the very last thing he thinks of doing is to take a translation of Plato off the library shelf and read the *Symposium*. He would rather read some dreary modern book ten times as long, about “isms” and influences and only once in twelve pages telling him what Plato actually said. The error is rather an amiable one, for it springs from humility. The student is half afraid to meet one of the great philosophers face to face. He feels himself inadequate and thinks he will not understand him. But if he only knew, the great man, just because of his greatness, is much more intelligible than his modern commentator. The simplest student will be able to understand, if not all, yet a very great deal of what Plato said; but hardly anyone can understand some modern books of Platonism. It has always therefore been one of my main endeavours as a teacher to persuade the young that first-hand knowledge is not only more worth acquiring than second-hand knowledge, but it is usually much easier and more delightful to acquire.”

– C.S. Lewis, “On the Reading of Old Books,” *God in the Dock*

When a particular topic has been explored to its depths and understood to a great extent, people write textbooks about it. These texts synthesize and summarize previously established truths and are designed to present them to a reader in a comprehensible way.

But of course before a textbook can ever be written, the knowledge itself has to arise. Primary sources are the writings of the originators of the knowledge, often written at a time when the ideas are fresh and still being formed. They present the concepts “from the horse's mouth” and usually include a trail of the original thought process, warts and all.

Especially in a new and uncertain field of study, it is crucial to engage and even scrutinize primary sources. We're not simply looking for synopses here: we're examining the author's presuppositions, biases, logic, and influences. We want to know the alternatives he or she considered and the reasons for their being rejected.

In short, we want to get inside the minds of the original thinkers and reconstruct what led them to their conclusions, so we can decide whether we agree with them or not. It's not only enlightening, but I think you'll find it fun. :-)

How to succeed in this course

You really only need to do one thing to be successful in this course, and that is to *be engaged*.

What does this mean, exactly? Basically it means you need to do the work, and *care* about it. Complete the readings, and give them your full attention. Care about them, give them your time, engage the material, ask questions. Form your own opinions, and listen to others'. Take pride in your blog, and post thoughtfully. Join this semester's quest not reluctantly, not passively, but wholeheartedly and enthusiastically. Do that, and you will do fabulously in this class.

You don't have to be a genius to do well in this class. You don't have to be the world's greatest writer, or talker, or thinker. What you have to do is *care*, and *try*.

Course Objectives

- To look at the role that technological innovation has played in the broad sweep of history, and gain a greater appreciation for the benefits and disruption it can bring.
- To examine in detail a catalog of some of the world's greatest inventions and understand their consequences.
- To explore what various authors and thinkers have postulated about other possible inventions, and to consider their views on the impact such inventions would have.
- To utilize a variety of research techniques to retrieve information efficiently, evaluate retrieved information, and synthesize information effectively to support their messages or arguments.
- To improve development and organization of written arguments.
- To demonstrate the ability to edit and revise in the writing process.
- To apply the basic theories and principles of oral communication.
- To communicate effectively in a variety of settings, including public speaking and group discussion.

Required Readings

Much of the reading we will do this semester will be in the form of short, historical news reports and articles that we find as a result of foraging for information in the literature of history past. In addition to that, we will also be reading part or all of the following works:

- Adler, M. J. and Van Doren, C. L. *How to Read a Book*. Touchstone. (Selected chapters) (1972)
- Asimov, I. I. *Robot*. Panther Books. (Selected stories) (1968)
- Bellamy, E. *Looking Backward: 2000-1887*. Dover. (1888)
- Bradbury, R. "The Flying Machine." *Golden Apples of the Sun*. William Morrow Paperbacks. (1953)
- Cadigan, P. "Pretty Boy Crossover." *The Year's Best Science Fiction: Fourth Annual Collection*, 106–14. (1986)
- Clark, N. and Scott, P. *Game Addiction: The Experience and the Effects*. McFarland. (2009)
- Edison, T. *The Papers of Thomas A. Edison*. Johns Hopkins University Press. (Selected papers) (1881)
- Ellson, H. *I Have No Mouth and I Must Scream*. Pyramid Books. (1967)
- Gibson, W. "The Winter Market." *Vancouver Magazine*. (1986)
- Heinlein, R. "Let There Be Light," "Life-Line," "The Roads Must Roll," *The Past Through Tomorrow: Future History Stories*. Ace. (1940)
- Lovelace, A. "A Sketch of the Analytical Engine Invented by Charles Babbage." (1843)

- Reid, T.R. *The Chip : How Two Americans Invented the Microchip and Launched a Revolution*. Random House. (Selected chapters) (1985)
- Rhodes, R. *The Making of the Atomic Bomb*. Simon & Schuster. (Selected chapters) (1995)
- Tesla, N. *The Problem of Increasing Human Energy*. BN Publishing. (1900)

Required Film Viewings

- Davies, H. *Copenhagen*. British Broadcasting Corporation. (2002)
- Donaldson, R. *Thirteen Days*. New Line Cinema. (2000)
- Sargent, J. *Colossus: “The Forbin” Project*. Universal Pictures. (1970)
- Scheerer, R. “The Measure of a Man,” *Star Trek: The Next Generation*, 2 (9) (1989)
- Scott, R. *Blade Runner*. Warner Brothers. (1982)

Grading

<i>Grading Criteria</i>	<i>Weight</i>
In-class contribution to discussion	20%
Your “Invention of the Day”: presentation, discussion questions, and leading the discussion	10%
Movie viewings and discussion/essay	10%
Your semester-long blog	30%
Completion of online FSEM learning modules	10%
Final exam (short answer, essay)	20%

“Invention of the Day”

Many of our class periods will focus on a single invention, either historical or fictional. Someone (at first, me; later, you) will begin with a presentation of the relevant historical facts and common interpretations, in order to introduce the topic. Then, this leader will serve as the “facilitator” for class discussion. Having crafted and distributed a set of discussion questions to the class a few days beforehand, they will introduce the questions in class, frame the discussion, and occasionally summarize the main points of view. This is an excellent skill to acquire, and so I want each of you to have a chance to learn it to. I'll talk more about guidelines for this later on, but hopefully when you see what I do it will be clear.

Your “performance” (discussion questions, presentation, and facilitation) on your Invention of the Day will be a considerable portion of your grade for the semester (see above). An even greater portion, however, will be due to your participation in discussion during *other* students’ Invention of the Day. You should be prepared to participate actively and considerately in the ongoing class discussion all semester.

Movie Viewings

At various times throughout the semester, we'll be scheduling "movie nights" on the big screen in Trinkle 204. You are strongly encouraged to attend these performances and participate in a discussion of key themes from the films immediately afterwards. It is inevitable, however, that not everyone's schedule will allow attendance at all showings. In these cases, therefore, you may obtain and watch the movie on your own and compose a written essay (on a film-related subject of my choosing) in lieu of attending and participating in the post-filming discussion.

Online FSEM learning modules

The new UMW QEP (Quality Enhancement Plan) is geared towards enriching the first-year seminar experience. Across campus, first-year students will be engaging in a series of online learning modules designed to promote writing skills, speaking skills, and information literacy. These modules are all required, and participation will be counted towards your final grade in the course.

Your Blog

Learning to express yourself in writing is one of the central elements of this course. Crafting an article that develops a point of view not only forces you to express it clearly and support it with compelling evidence, but also helps you work out your own thoughts and opinions on the subject as you articulate it. You will learn to identify shortcomings, recognize further implications, and anticipate possible objections to your thesis. The process of writing is a soul-searching one that both demands and illuminates in a way that simply batting around ideas informally never will.

Rather than writing traditional printed essays, our medium of expression this semester will be the electronic blog. Some of you may already have your own blog that you post to regularly.

There are two dimensions to what the class's blogs will bring about:

1. Your own blog, over the course of the semester, will be a running record of your own thoughts, impressions, and opinions about the history of inventions. At the end, you will be able to look back at it and see your views develop and change as you continue to learn and consider.
2. The collective blogs of the entire class will form an interleaved, interrelated network of discussion as you read and comment on each others' posts. I expect there to be numerous "mini-threads" of discussion that emerge from the blogs, where multiple students comment upon comments upon comments. Hopefully, synthesized views and deeper understanding will arise from all of this.

I'll be talking in class more about my expectations for quantity and quality of blog posts and comments, as well as what I'll be measuring. For now, I want you simply to think of the class blogs as reflecting a rich, ongoing discussion that the entire class is electronically participating in.