**Course Proposal**

**Topic of Interest:** Design and implementation of 3D Printing.

**Bibliography:**

Conner, Margery. "3-D Medical Printer To Print Body Parts." *Edn* 55.3 (2010): 9. *Academic Search Complete*. Web. 5 Jan. 2012.

This article describes how 3D printing does not include just plastics or even metals, but also live tissue. Researchers, according to the article, have been able to create blood vessels from cells given to them by companies like Life Technologies, etc. These blood vessels, the article goes on to say, could help in coronary-bypass surgery. Along with other medical uses, 3D printers are able to generate complex objects with a multitude of materials.

NATHAN, STUART. "Printing Parts." *Technology Review* 114.5 (2011): 112-114. *Academic Search Complete*. Web. 5 Jan. 2012.

This article goes into detail about an engineer who has used a 3D printer to print airplane parts. The printer uses actual metal alloys to create a lighter, and denser material to make airplanes use less fuel, and be lighter. The printer uses lasers instead of electron beams, according to the article, and to make real airplane parts, the author states that the printing head would have to be on a crane, but could conceivably create the wings and tail of an airplane.

"3D Printer Brings Kids Into Engineering Lab." *MAN: Modern Applications News* 44.12 (2010): 10. *Academic Search Complete*. Web. 5 Jan. 2012.

This article was chosen because while 3D printing can seem to help and or solve major issues, that is not all that it is limited to. “3D Printer Brings Kids Into Engineering Lab” talks about an 8th grade teacher having his class attempt to solve a minor issue; cup holders not being able to carry certain size drinks depending on when a chosen car was made. While the article does not go into detail about how this was resolved, it does talk about how 3D printing can help solve problems in a new way.

**Deliverables:**

Build the 3D Printer: Want to have done within 2 months.

Document the build, with pictures and such via website: Incremental.

Create a ‘ready-to-assemble’ robot that requires no cutting/shaping/drilling: Done by the end of the semester

**Rubric:**

Building the 3D printer: 60%

Documentation: 20%

‘Ready-To-Assemble’ Robot: 20%