3D Printing for Nuclear Science and Engineering

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3D Printing for Nuclear Science and Engineering: Have you ever thought of an entire nuclear reactor core that you could display to family members, friends, colleagues, or classmates? I'll walk you through the structure of a nuclear power plant down to the fuel pins for uranium to a complete nucleus! We'll be modeling an unpressurized water reactor designed by researchers from the UK* to propel commercial ships!

The course is available for anyone who has a personal computer. No prior knowledge of nuclear physics is required. I designed this course to be completed within a week for people with busy schedules and lives. This course is ideal for educators and students alike. Students can display their nuclear reactor 3D-printed to get an edge in scholarship applications. At the same time, teachers can easily present the technical aspects of nuclear reactor design using physical models that can be displayed to students in the classroom.

No 3D Printer? Not a problem! I'll show you some services that allow you to send a 3D design to others who will print and deliver it directly.

When you enroll in this course, You will be able to:

- Discover the basic anatomy of a pressurized Water Reactor and how researchers intend to make use of the device to run commercial freight ships and passenger's vessels
- You can easily navigate Blender, a no-cost and open-source 3D modeling and animation software utilized by engineers and artists alike.
- Create a correct three-dimensional model of a nuclear power plant using Blender. Begin with each fuel pin, moving on to fuel rods, followed by Fuel assemblies, and then the entire core of the reactor
- Make sure your 3D model is optimized to get more excellent performance in Blender and for perfect 3D prints
- You can tweak your 3D model to alter the course's fuel assembly according to your preferences.
- Be familiar with the Fused Deposition Modelling (FDM) 3D printer and be aware of the critical security concerns
- Install your printer for an easy and smooth printing job
- Find out how researchers across the USA, along with Russia, are utilizing 3D printing technology to produce real-life nuclear reactor fuel as well as critical components

3D printing is a rapidly developing technology that is rapidly changing manufacturing and education - don't be left in the dust! Learn the fundamentals of 3D printing and decide whether you'd like to go deep into the lucrative realm of Additive Manufacturing.