



# Nuclear Engineering Undergraduate Program



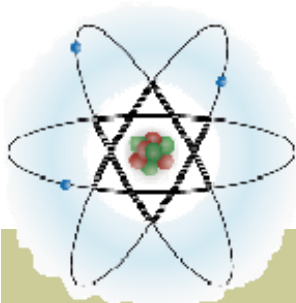
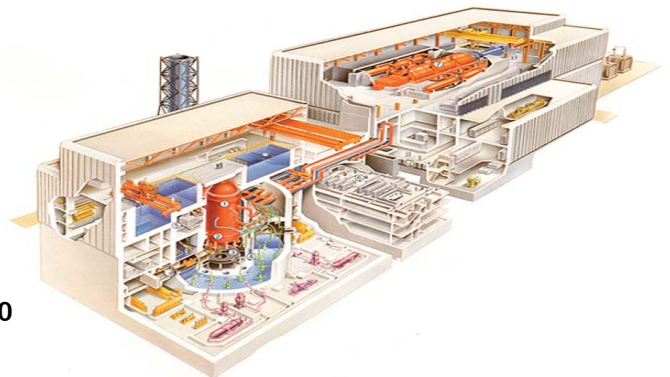
## Bachelor's Degree Track in Nuclear Engineering Department of Mechanical Engineering Virginia Commonwealth University

A significant number of new fission reactors are now being constructed for the first time in about 30 years. Two issues motivate this renewed interest in nuclear power generation: dependence on foreign oil and global warming. Fission-based power generation can reduce the country's insatiable appetite for fossil fuel, and no carbon dioxide or any other heat-trapping gases is generated as a result of nuclear power generation. Along with other pollutants, a coal-fired power plant, in contrast, annually releases 10 billion kg of carbon dioxide into the atmosphere for each 1000 MW of electric capacity. Furthermore, for now and the near future at least, the cost of electricity from nuclear power plants is far less than any of the alternative energy technologies now contemplated, such as solar, biomass and wind. Nuclear power must be part of any future solution to the energy crisis. The new undergraduate program at VCU will help train the next generation of nuclear engineers.

A bachelor's degree program in nuclear engineering will commence at Virginia Commonwealth University in the Fall of 2009. The program is administered by the Department of Mechanical Engineering, and the degree requires 130 credit hours of course work to complete, 30 of those credits are traditional nuclear engineering courses, 48 are mechanical engineering courses, 4 are the required course Modern Physics, and the balance are the science and humanities requirements typical of most engineering programs.

### Sample Nuclear Courses

- Introduction to Nuclear Engineering, EGRN 210
- Modern Physics, PHYS 320
- Fundamentals of Nuclear Engineering, EGRN 310
- Reactor Design and Systems, EGRN 320
- Radiation Safety and Shielding, EGRN 330
- Economics of Nuclear Power Production, EGRN 410
- Nuclear Power Plants, EGRN 420
- Processing of Nuclear Fuel, EGRN 430
- Nuclear Safety and Security, EGRN 440



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