

Nuclear Engineering Technology Program

Student Learning Outcomes

A graduate of the Nuclear Engineering Technology Program will:

1. know the importance of minimizing human error in the daily operations of a nuclear power plant.
2. have the ability to succeed with extensive continual training and education that is required of nuclear power plant workers.
3. read and interpret plant drawings.
4. safely and reliably use basic power and manual tools.
5. be knowledgeable of OSHA's general safety requirements for working at a large industrial facility.
6. be knowledgeable of the radiological safety requirements in a nuclear power plant.
7. be able to distinguish between different types of ionizing radiation and describe various methods and techniques used to minimize exposure to ionizing radiation.
8. be able to describe how radiation is measured and detected.
9. know the internal procedures and organizational structure of PNPP.
10. know the responsibilities and functions of technicians in various positions and departments throughout PNPP.
11. be able to describe the overall designs of a commercial boiling water reactor (BWR) and pressurized water reactor (PWR), including the differences, advantages and disadvantages of the two designs.
12. be able to describe features incorporated into the next generation BWR and PWR designs.
13. be able to describe the purpose and function of the various safety systems that are employed in commercial nuclear power plants.
14. be able to explain why specific material science systems were chosen for the important components (fuel, cladding, control rods, reactor vessel, piping, etc.) of a nuclear reactor.
15. be able to explain how altering the thermodynamic operating conditions of a power plant will affect the plant's output.
16. be able to identify an ethical dilemma and propose different solutions to the problem.
17. be able to effectively work in teams.
18. be knowledgeable in basic concepts of electrical circuits and process control.
19. be skillful in basic math and science.
20. be able to experimentally collect and synthesize data to solve technical problems.
21. be able to write clear and succinct technical reports with strong summaries and conclusions supported by the data.
22. give effective presentations to their peers and supervisors.
23. possess effective problem solving and critical thinking skills.
24. know the societal factors that could limit or enhance the future of nuclear power.