The following are possible topics which a PHYS 7501 literature review presentation might be based on.

Other topics can be suggested. Good places to look for other topics would be the 2015 NSAC Long Range Plan, as well as recent articles in Physical Review C, Physical Review Letters, and the Astrophysical Journal. Presentations should be self-contained and provide an overview of a topic, but need not be a full review. Some aspects of a topic will have to be emphasized over others.

Note that your topic must be approved by me. For instance, you have to know what you're getting into and the topic can't be too close to your research.

Topic Ideas, in no particular order (Crossed-out have been taken):

1. Non-axial nuclear deformation
2. s-process nucleosynthesis
3. **r-process nucleosynthesis (Yenuel Jones-Alberty)**
4. The rp-process and x-ray bursts
5. **i-process nucleosynthesis (Michael Hartos)**
6. p-process nucleosynthesis
7. **Nuclear masses and astrophysics (Laura Herzog)**
8. Islands of Inversion
9. Superheavy nuclei
10. Big Bang nucleosynthesis
11. Neutron star crust nuclear physics
12. Beta-neutrino angular correlations
13. Neutron electric dipole moment search
14. Neutrinoless double beta-decay
15. Fusion reactors
16. Reactor neutrino anomaly
17. **Nuclear pasta in neutron stars (Joey Rowley)**
18. **The neutron dripline (Joseph Derkin)**
19. Dense matter equation of state
20. **Neutron skin thickness (Jacob Murphy)**
21. **Neutron Imaging (Gula Hamad)**
22. Alpha-clustering in nuclei
23. Ion trapping and associated measurements
24. Time-projection chambers
25. **Pre-solar grains (Justin Warren)**
26. Rare-isotope harvesting
27. Kilanovae
28. Nova nucleosynthesis
29. Molten salt reactors
30. Beta-delayed particle emission
31. ~~Halo Nuclei~~ **[FS17]**
32. ~~Nuclear mass models~~ **[FS17]**
33. ~~Density functional theory~~ **[FS17]**
34. ~~Lattice QCD~~ [FS17]

35. ~~Hypernuclei~~ [FS17]
36. ~~Nuclei and medical imaging~~ [FS17]
37. ~~Nuclear materials analysis~~ **[FS17]**
38. ~~The neutron lifetime~~ **[FS17]**
39. ~~Neutron capture cross sections for short-lived nuclei~~ **[FS17]**
40. ~~Effective Field Theory~~ **[FS17]**
41. ~~Plasma Fusion Reactors~~ **[FS17]**