

## **Suggested Topics for Student Presentations**

The following list is not exhaustive. Please feel free to propose additional topics that are of interest to you.

- Spacetime curvature and cosmology (Notes available)
- Black holes have no hair
- The thermodynamics of black holes
- Methods of searching for black holes
- Black holes and dark matter
- Supermassive black holes, quasars, and active galactic nuclei
- Gamma Ray Bursts
- What is reality? (Ch. 11: Thorne)
- Singularities
- Black hole evaporation (Hawking radiation)
- Black holes and quantum gravity
- Wormholes and their construction
- Wormholes and exotic matter
- Wormholes as time machines
- Extracting energy from a black hole
- Black hole complementarity
- Black hole computers\*
- Creating quantum black holes in the lab\*
- Black holes and the information paradox\*
- Possible escape of information from a black hole\*
- The holographic principle\*
- The universe's unseen dimensions\*

\* I have excellent articles available on these topics that will aid you in preparing your presentation.