**Learning Outcomes**

1. Students will demonstrate knowledge of computer architecture.
2. Students will demonstrate knowledge of compiler construction.
3. Students will demonstrate knowledge of the theory of computation.
4. Students will demonstrate knowledge of the analysis of algorithms.
5. At the time of graduation a Doctor of Philosophy student should be able to perform research involving computer systems for the solution of problems.
6. At the time of graduation a Doctor of Philosophy student should be able to formulate problems in their research area that are challenging and of wide interest in the area.
7. At the time of graduation a Doctor of Philosophy student should be able to actively contribute to the research in their area.
8. At the time of graduation a Doctor of Philosophy student should be able to communicate effectively about their research in computer science and engineering.