This is a named option in the Physics M.S. (http://guide.wisc.edu/graduate/physics/physics-ms/)

The M.S. in Physics–Quantum Computing (MSPQC) is an intensive professional master's degree and is designed to be completed in one calendar year. The program provides students with a thorough grounding in the new discipline of quantum information and quantum computing. This begins with a study of the relevant parts of quantum theory, and proceeds to quantum gates, measurements, algorithms, quantum error correction and decoherence. Quantum communication theory and the secure transmission of information are also covered. The supporting areas of statistical mechanics, solid-state physics and atomic physics form part of the classroom training. Just as important, the program gives students a mastery of the advanced lab skills involved in quantum computation. Students who graduate from this program will have the tools to succeed as researchers or program managers in a quantum computing or quantum technologies enterprise. They may also use the program as a springboard to Ph.D. programs in physics or related areas. MSPQC students interested in applying to the Ph.D. at UW–Madison must adhere to all Ph.D. admission requirements and deadlines.