Schedule: MathQuantum Spring 2025 Research Interaction Team

Session	Activity	Details and Milestones
1 (Week 1)	Introduction and Logistics	Present RIT goals and format; describe the research process; participants introduce themselves (discipline, study level, quantum computing interests).
2 (Week 2)	Lecture: Hidden-State Proofs of Quantumness and the Discrete Fourier Transform	Lecture and Q&A on cryptography and *Hidden-State Proofs of Quantumness* (Miller, 2024); distribute introductory reading . **Milestone:** Start reading research paper.
– (Week 3)	Teams work independently	
3 (Week 4)	Lecture: Shor's Algorithm (Part I)	Introduce Shor's Algorithm; discuss quantum factoring.
4 (Week 5)	Lecture: Shor's Algorithm (Part II)	Introduce Shor's Algorithm; present and discuss example problems.
5 (Week 6)	Quantum Information Processing 2025 Conference Review	Present conference highlights; discuss new papers and research trends; brainstorm potential research directions in teams.
– (Week 7)	Teams work independently	
– (Week 8)	Teams work independently	
6 (Week 9)	Dissecting *Hidden-State Proofs of Quantumness* (Part I): Team Formation	Team leads present on their paper sections; teams form to analyze Carl Miller's paper. **Milestone:** Finish reading research paper and form teams.
7 (Week 10)	Dissecting *Hidden-State Proofs of Quantumness* (Part II): Paper Analysis	Teams continue analyses; teams present brief progress reports and short chalk talks. **Milestone:** Finish analyzing research paper.
8 (Week 11)	Dissecting *Hidden-State Proofs of Quantumness* (Part III): Team Goal Setting	Teams refine proofs and arguments; brainstorm research questions; present short chalk talks. **Milestone:** Present research goals.
9 (Week 12)	Dissecting *Hidden-State Proofs of Quantumness* (Part IV): Identify Supporting Literature	Teams share at least two literature sources; discuss relevance to research goals; peers provide feedback. **Milestone:** Share complementary literature sources.
10 (Week 13)	Quantum Algorithm Research Talks	Graduate students present their own research, not directly related to the RIT topic.
11 (Week 14)	Wrap-Up and Mock Proposals	Carl presents an experimental paper related to his Proofs paper; teams present on their projects; discuss mock proposal and determine next steps for summer work. **Milestone:** Present project proposals and plans for future work.