



**FLORIDA INTERNATIONAL UNIVERSITY
UNIVERSITY CURRICULUM COMMITTEE**

Proposal for a New Course

DO NOT TYPE IN THIS BOX

Bulletin # : _____

Academic Year : _____

1. **School/College** Engineering and Computing
Div./Dept. in Which Taught Knight Foundation School of Computing and Information Sciences

2. **COT** 5 **CIP Code** (Leave this blank): _____
 Alpha Prefix 1st Digit Last 3 Digits 3 Cr. Hrs.
 "C"-lec-lab "L"-Lab

3. **Grading Method (select one):** Graded Pass/Fail

4a. **Course Title** Advanced Quantum Information and Probability

b. **Abbreviated course Title (for computer class schedules, transcripts)** Adv Quantum Info
LIMITED TO 25 Characters (including spaces)

5. **Statewide Course Numbering Subject Matter Area** Computation Theory (COT)

6. **Catalog Description/Major Topics** (not to exceed 200 characters including spaces)
College of Medicine and College of Law: Attach description not exceeding 1,000 characters including spaces.
Advanced topics in quantum information theory and probability; Quantum complexity classes; Quantum channel capacity; Quantum Fourier Transform; Quantum entanglement distillation.

7. **Attach detailed syllabus course outline and course justification on separate page(s).**

8. **Prerequisite(s):** Permission of the instructor

9. **Corequisite(s):** _____

10. **Objective(s) of Course:**
Describe axioms of quantum mechanics, superposition, entanglement, and the uncertainty principle
 Discuss quantum channel capacity
 Design quantum distillation mechanisms

11. **Does this course duplicate/overlap other courses at FIU?** No Yes
 If yes, please explain: _____

12. **What other closely related department(s) have been consulted about this course?**

13. **Is this course used for the assessment of a program or a certificate (if yes, then send a notification to assessment@fiu.edu)?** No Yes

PROPOSAL REQUESTED BY:

Faculty Contact <u>Farhad Shirani Chaharsooghi</u>	<u><i>Farhad Shirani</i></u>	<u>10 / 12 / 2023</u>
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(Email address)	(Phone number)	
Chairperson (Dept./Div.) <u>Jason Liu</u>	_____ / _____ / 2023	
(Type name)	(Signature)	
Chairperson (Curr. Comm.) _____	_____ / _____ / 2023	
(Type name)	(Signature)	
College/School Dean _____	_____ / _____ / 2023	
(Type name)	(Signature)	

Submit one original form. Attach one copy of the course justification and course syllabus, course description, objectives, major topics and textbooks.