



BA IN PHYSICS: QUANTITATIVE FINANCE OPTION

DEPARTMENT of PHYSICS and ASTRONOMY and
The KENAN-FLAGLER BUSINESS SCHOOL at
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

We are excited to announce the creation of a new BA in Physics major with an emphasis on Quantitative Finance. This is a joint venture between the Department of Physics and Astronomy and the Kenan-Flagler Business School at UNC.

Why combine physics and finance? Many of the analytical models used in financial engineering are derived from mathematical models used in physics. For example, the Nobel Prize winning Black-Scholes option pricing model is based on the heat equation in physics. In addition, the types of numerical methods developed for solving problems in physics have direct applications in finance. Consequently, there are natural synergies between the areas. Top financial institutions regularly employ students with backgrounds in math and physics so there is an established career path for students from this program, so much so that people on this career track have their own name – “Quants.”

Who is the major for? It is for students with a strong mathematical background and an interest in quantitative finance, financial engineering, or economics. Career paths include: Quantitative Finance, Derivatives Trader, Risk Analysis and Management, Portfolio Manager, Patent Law, Analyst, Actuarial Science, Tech Consultant, Tech Business Management, Management Consulting, and Technical Project Management. The business school already coordinates closely with on-campus recruiting services that will provide students with access to top companies. You will also have access to internships.

I want to major pursue this major! What do I do next?

Please contact the following faculty if you have any questions:

Prof. Reyco Henning, Department of Physics and Astronomy: rhenning@unc.edu

Prof. Alex Arapoglou, Kenan-Flagler Business School: Alexander_Arapoglou@kenan-flagler.unc.edu

Sample Schedule

Year	Fall	Hours	Spring	Hours
1	Calculus I (MATH 231)	4	Calculus II (MATH 232)	4
	Chemistry I (CHEM 101)	3/1	Chemistry II (CHEM 102)	4
			Physics – Intro Mechanics (PHYS 118)	4
2	Multivariate Calculus (MATH 233)	4	Differential Equations (MATH 383)	3
	Physics – Intro EM (PHYS 119)	4	Mathematical Methods (PHYS 331)	4
3	Corporate Finance (BUSI 408)	3	Physics – Mechanics (PHYS 201/301)	3
	Thermal Physics (PHYS 341)	3	Investments (BUSI 580)	3
			Experimental Physics (PHYS 281L)	2
4	Physics – EM (PHYS 211/311)	3	Risk Management (BUSI 600)	1.5
	Fixed Income (BUSI 589)	1.5		
	Derivatives (BUSI 588/688)	3.0	Elective	3.0
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