Quick Guide for Computer Science - Mathematics

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a PhD program in either discipline are urged to take additional courses, in consultation with their advisors. The program requires a total of at least 44-47 points: 19-20 points in Computer Science, 19-21 points in Mathematics, and two 3-point electives in either CS or Math. This guide is for your convenience and does not replace the bulletin

Computer Science:

COMS W1004 Intro to CS & Programming in Java or COMS 1007 Honors Intro to CS
COMS W3134 Data Structures in Java or COMS 3137 Data Structures and Algorithms
COMS W3157 Advanced Programming
COMS W3203 Discrete Maths
COMS W3261 Computer Science Theory
CSEE W3827 Fundamentals of Computer Systems

Mathematics:

One of the following three Calculus and Linear Algebra sequences:
1) MATH UN1101, UN1102, UN1201, UN1202, UN2010
2) MATH UN1101, UN1102, UN1205, UN2010
3) MATH UN1101, UN1102, UN1207, UN1208

Each of the following:
MATH UN3951 or MATH UN3952
MATH GU4041

Electives: Select two of the following courses:

MATH BC2006 Combinatorics
MATH UN2030 Ordinary Differential Equations
MATH UN2500 Analysis and Optimization
MATH UN3007 Complex Variables
MATH UN3020 Number Theory and Cryptography
MATH UN3025 Making, Breaking Codes
MATH UN3028 Partial Differential Equations
MATH UN3386 Differential Geometry
MATH GU4032 Fourier Analysis
MATH GU4042 Introduction to Modern Algebra II
MATH GU4051 Topology
MATH GU4053 Introduction to Algebraic Topology
MATH GU4061 Introduction to Modern Analysis I
MATH GU4062 Introduction to Modern Analysis II

COMS W4111 INTRODUCTION TO DATABASES
COMS W4113 FUND-LARGE-SCALE DIST SYSTEMS
COMS W4115 PROGRAMMING LANG & TRANSLATORS
COMS W4118 OPERATING SYSTEMS I
COMS W4119 COMPUTER NETWORKS
COMS W4152 Engineering Software-as-a-Service
COMS W4156 ADVANCED SOFTWARE ENGINEERING
COMS W4160 COMPUTER GRAPHICS
COMS W4167 COMPUTER ANIMATION
COMS W4170 USER INTERFACE DESIGN
COMS W4181 SECURITY I
CSOR E4231 ANALYSIS OF ALGORITHMS I
COMS W4236 INTRO-COMPUTATIONAL COMPLEXITY
COMS W4701 ARTIFICIAL INTELLIGENCE
COMS W4705 NATURAL LANGUAGE PROCESSING
COMS W4731 Computer Vision I: First Principles
COMS W4733 COMPUTATIONAL ASPECTS OF ROBOTICS
CBMF W4761 COMPUTATIONAL GENOMICS
COMS W4771 MACHINE LEARNING
CSEE W4824 COMPUTER ARCHITECTURE
CSEE W4868 SYSTEM-ON-CHIP PLATFORMS