MATHEMATICS B.A. - Computational Mathematics

2020/21 (BF 7/2/20)

Name: ___________________________ Date: ___________________________

(Queer offered: F=Fall, W=Winter, S=Spring, *= Not offered this year)

ID#: ___________________________

NOTE: Courses appearing in more than one category can fulfill only one requirement.

INTRODUCTORY REQUIREMENTS (6 total)

Calculus:
MATH 19A (FWS) ___ + 19B (FWS) ___ or Math 20A (F) ___ + 20B (W) ___

Linear Algebra:
MATH 21 (FWS) ___

Vector Calculus:
MATH 23A (FWS) ___ + MATH 23B (FWS) ___

Intro to Proof & Problem Solving
MATH 100 (FWS) ___

ADVANCED REQUIREMENTS (9 total)

Math:
MATH 24 Differential Equations (FW) ___
MATH 110 Introduction to Number Theory (WS) ___

Algebra: ONE of the following.
MATH 111A Algebra (FW) ___
MATH 111T Algebra (S) ___
Math 117 Advanced Linear Algebra (FS) ___

Differential Equations: ONE of the following.
MATH 106 Systems of Ordinary Differential Equations (W) ___
MATH 107 Partial Differential Equations (S) ___

Analysis: ONE of the following.
MATH 103A Complex Analysis (WS) ___
MATH 105A Real Analysis (FW) ___

Computational: ONE of the following.
MATH 145/L Introduction to Chaos & Lab (*) ___
MATH 148 Numerical Analysis (S) ___
AM 114 Introduction to Dynamical Systems (F) ___
AM 147 Computational Methods and Applications (W) ___

Electives: TWO of the following.
Any AM or STAT course numbered 100 and above
BME 110 Computational Biology Tools
CSE 101 Algorithms & Abstract Data Types
CSE 102 Introduction to Analysis of Algorithms
CSE 103 Computational Models
CSE 104 Computability & Computational Complexity
CSE 106 Applied Graph Theory & Algorithms
CSE 107 Probability and Statistics for Engineers
CSE 110A Fundamental of Compiler Design I
CSE 111 Advanced Programming
CSE 112 Comparative Programming Languages
CSE 142 Machine Learning & Data Mining
EART/OCEA 172 Geophysical Fluid Dynamics
ECE 103 Signals & Systems
ECE 130 Introduction to Optoelectronics & Photonics
ECE 135 Electromagnetic Fields & Waves
ECE 141 Feedback Control Systems
ECE 151 Communications Systems
ECE 153 Digital Signal Processing

COMPREHENSIVE REQUIREMENT
MATH 194 Senior Seminar (WS) ___ OR MATH 195 Senior Thesis (FWS) ___

Disciplinary Communication Requirement (DC): Students satisfy this requirement by completing courses MATH 100 and either MATH 194 or MATH 195. The DC course requirement must be taken at UCSC.