| Student:<br>ID #:  | Program:  Ph.D. in Computational Mathematics    Advisor: |
|--|--|
| Coursework (   | MINIMUM 48 - 54 CREDIT HOURS)                            |
| Choose at least two courses from the fol                 | Semester & Year lowing list.                             |
| MAT 630 Computational Discret                            | e Mathematics (3)  |
| MAT 627 Numerical Methods (3                             | )  |
| STA 642 Statistical Computing (                          | 3)   |
| Choose at least 48 credit hours of appro-                | oved coursework.   |
| STA 622 Complex Data Analysis                            | (3)  |
| STA 635 Theory of Linear Regre                           | ssion (3)  |
| STA 642 Statistical Computing (                          | 3)   |
| STA 651 Mathematical Statistics                          | (3)  |
| STA 652 Mathematical Statistics                          | (3)  |
| STA 661 Advanced Statistics in the                       | e Behavioral and Biological Sciences I (3)               |
| STA 662 Advanced Statistics in the                       | e Behavioral and Biological Sciences II (3)              |
| STA 665 Analysis of Survival Da                          | ta (3)   |
| STA 670 Categorical Data Analy                           | sis (3)  |
| STA 671 Multivariate Analysis (                          | 3)   |
| STA 673 Statistical Linear Mode                          | ls I (3)   |
| STA 674 Statistical Linear Mode                          | ls II (3)  |
| STA 675 Advanced Experimenta                             | Design (3)   |
| STA 676 Sample Survey Methods                            | s (3)  |
| STA 682 Theory of Time Series (                          | (3)  |
| STA 703 Topics in High Dimensi                           | onal Data Analysis (3)                                   |
| $\square MAT 701 Graduate Seminar in O (\ credit hours)$ | Computational Mathematics                                |
| STA 701 Seminar in Computatio<br>( credit hours)         | nal Statistics   |
| MAT 709 Topics in Computation<br>( credit hours)         | al Mathematics   |

## Department of Mathematics and Statistics: Doctoral Plan Of Study (Fall 2022)

| STA 709 Topics in Computational Statistics<br>( credit hours) |  |
|---|--|
| MAT 721 Mathematical Cryptography (3)                         |  |
| $\square$ MAT 723 Numerical Mathematics (3)                   |  |
| $\square$ MAT 726 Finite Element Methods (3)                  |  |
| MAT 727 Linear Algebra (3)                                    |  |
| $\square$ MAT 728 Numerical Linear Algebra (3)                |  |
| $\square$ MAT 735 Ordinary Differential Equations (3)         |  |
| $\square$ MAT 736 Partial Differential Equations (3)          |  |
| MAT 737 General Topology (3)                                  |  |
| MAT 740 Algebra I: Groups and Rings (3)                       |  |
| $\square$ MAT 741 Algebra II: Modules and Fields (3)          |  |
| $\square$ MAT 742 Computational Algebraic Number Theory (3)   |  |
| MAT 743 Complex Analysis (3)                                  |  |
| $\square$ MAT 745 Measure Theory (3)                          |  |
| MAT 746 Real Analysis (3)                                     |  |
| $\square$ MAT 747 Computational Topology (3)                  |  |
| MAT 748 Computational Algebra (3)                             |  |
| $\square$ MAT 749 The Mathematics of Machine Learning (3)     |  |
| MAT 751 Advanced Topological Data Analysis (3)                |  |
| MAT 790 Directed Doctoral Research<br>( credit hours)         |  |
| MAT 799 Dissertation  |  |
| ( credit hours)   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |

| Choose additional electives that do not count toward the required 48 hours. |         |
|---|---------|
| MAT 695 Mathematical Analysis (3)   |         |
| MAT 696 Mathematical Analysis (3)   |         |
| $\square$ MAT 601 Seminar in the Teaching of Mathematics I (1)              |         |
| $\square$ MAT 602 Seminar in Mathematical Software (3)                      |         |
| $\square$ MAT 603 Practicum in the Teaching of Mathematics (2)              |         |
| QUALIFYING EXAMS  |         |
| Chose two areas.  |         |
| Mathematical Analysis   |         |
| Linear Algebra and Matrix Theory  |         |
| Linear Models   |         |
| Mathematical Statistics   |         |
| Preliminary Examination   |         |
| Written component   |         |
| Oral component  |         |
| Dissertation Research   |         |
| Include $18-21$ credit hours of MAT 799 Dissertation in required 48 hours   | 5.      |
|   |         |
| Dissertation committee:   | (Chair) |
|   |         |
|   |         |
|   |         |
|   |         |
|   |         |
| Oral topic proposal and defense   |         |
| Written dissertation research outline                                       |         |
| Oral dissertation presentation and defense                                  |         |

| SIGNAT | URES |
|--------|------|
|--------|------|

| Sign and pr | int below. |       |
|-------------|------------|-------|
| Student:    |            | Date: |
|             |            |       |
| DGS:        |            | Date: |
|             |            |       |