# Bachelor of Science in Mathematics-Data Science Concentration

## Wright State Core – 40 hours

**Element 1 Communications**
- ENG 1100 Academic Writing and Reading
- ENG 2100 Research and Argument

**Element 2 Mathematics**
- MTH 2300 Calculus I

**Element 3 Global Traditions**
Choose one interdisciplinary course:
- AFS 2000 (IW, MC) CST 2430 (IW, MC) RST 2620 (IW, MC)
- ATH 2500 CST 2510 (IW, MC) RST 2710 (IW, MC)
- CS 1000 EC 2100 RST 2810 (IW, MC)
- CST 2210 (IW, MC) EC 2500 (IW, MC) RST 2910 (IW, MC)
- CST 2310 (IW, MC) EC 2900 (IW, MC) RST 2920 (IW, MC)
- CST 2320 (IW, MC) ED 2100 (MC) URS 2000 (IW, MC)
- CST 2410 (MC) ML 2030
- CST 2420 (IW, MC) RST 2610 (IW, MC)

Choose one History course:
- CLS 1500
- HST 1100
- HST 1200

**Element 4 Arts/Humanities**
Choose one course:
- ART 2140 ENG 2050 (IW, MC) PHL 2040 (IW)
- CLS 2040 (IW) MP 1310 PHL 2100
- CST 2310 (IW) MUS 1210 REL 2040 (IW)
- CST 2420 (IW) MUS 2140 TH 2140
- ENG 2040 (IW) MUS 2900 (IW, MC) UH 2010 (IW)

**Element 5 Social Science**
Choose two (2) courses from different disciplines:
- ATH 2200 EC 2500 (IW,MC) SOC 2000 (IW)
- EC 2000 (IW) EC 2900 (IW,MC) SW 2720 (IW,MC)
- EC 2040 FIN 2050 UH 2020 (IW)
- EC 2050 PLS 2000 WMS 2000(IW,MC)
- EC 2100 PSY 1010

**Element 6 Natural Science**
Choose two courses:
- ATH 2100 CHM 1060 PHY 1060/1060L
- BIO 1050 CHM 1210/1210L PHY 2400/2400L
- BIO 1060 EES 1060 PHY 2410/2410L
- BIO 1070 EES 1070 SM 1010 (IW)
- BIO 1120 HPR 2500
- BIO 1150 PHY 1050/1050L

**Additional Core Courses**
- MTH 2310 Calculus II
  - One additional approved Wright State Core course from any of the Elements

**Multicultural Competence**
- Two Multicultural Competence (MC) courses from the Wright State Core, Study Abroad, or Service Learning courses

**Writing Across the Curriculum**
- Two Integrated Writing (IW) courses from the Wright State Core.

## Departmental Requirements – 44-47 hours

**Required Core Courses (17-18 hrs.)**
- MTH 2001 Orientation Seminar in Math & Stat (1 hour)
- MTH 2320 Calculus III (4 hours)
- MTH 2330 Differential Equations (3 hours) OR MTH 2350 Differential Equations with Matrix Algebra (4 hours)
- MTH 2530 Elementary Linear Algebra (3 hours)
- MTH 2800 Writing Mathematical Proofs (3 hours)
- MTH 4310 Real Variables I (3 hours)

**Concentration Requirements (27-29 hrs.)**
- MTH 3060 Mathematical Modeling (3 hours)
- STT 3600 Applied Statistics I (3 hours)
- STT 3610 Applied Statistics II (3 hours)
- STT 4640 Machine Learning (3 hours)
- Five Department Approved Elective Courses*

**Related Course Requirements – 8 hours**
- CS 1160 Introduction to Computer Programming (4 hours)
- CS 1180 Computer Science I (4 hours) OR Choose the following sequence
- CS 1180 Computer Science I (4 hours)
- CS 1181 Computer Science II (4 hours)

**General Elective – 25-28 hours**
- Choose from the Wright State University Undergraduate Catalog to attain 120 total credit hours for the degree
- CS 1300 Data Science for Everyone (3hrs.) recommended

**Department Approved Elective Courses**
- MTH 2570 Discrete Mathematics for Computing (4 hours)
- MTH 3260 Numerical Methods (3 hours)
- MTH 3320 Complex Variables (3 hours)
- MTH 4070 Optimization Techniques (3 hours)
- MTH 4150 Scientific Computation (3 hours)
- MTH 4260 Matrix Computations (3 hours)
- MTH 4510 Modern Algebra I (3 hours)
- MTH 4550 Advanced Linear Algebra (3 hours)
- MTH 4570 Combinatorics & Graph Theory (4 hours)
- STT 4110 Applied Time Series (3 hours)
- STT 4310 Statistical Methods for Clinical Trials (3 hours)
- STT 4610 Theory of Statistics I (4 hours)
- STT 4660 Statistical Methods II (4 hours)

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*Revised: 10/12/2022
Department of Mathematics and Statistics*