**Advisement grids effective Fall 2016**

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| **Mathematics Core** |  | **Mathematics Elective** |
| MAT 121 Pre-Calculus (4) |  | MAT 298 Special Topics in Mathematics |
| MAT 215 Computer Programming (4) |  | MAT 299 Independent Study in Mathematics |
| MAT 221 Calculus I (4) |  | MAT 300 College Geometry |
| MAT 321 Calculus II (4) |  | MAT 320 Linear Algebra |
| MAT 330 Discrete Mathematics |  | MAT 310 Abstract Algebra |
| MAT 450 Senior Seminar in Mathematics |  | MAT 410 Real Analysis |
|  |  | MAT 420 Differential Equations |
|  |  | MAT 421 Calculus III (4) |
|  |  | MAT 430 Numerical Analysis |
|  |  | MAT 480 Mathematics Internship (1-3) |
|  |  | MAT 498 Special Topics in Mathematics |
|  |  | MAT 499 Independent Study in Mathematics |
|  |  |  |
|  |  |  |
| **MATH: 120 hours** |  | **MATH-ED: 124-126 hours** |
|  |  |  |
| **GEN ED Required: 48-49 hrs** |  | **GEN ED Required: 48-49 hrs** |
| ENG 103 or SCI 103 |  | ENG 103 or SCI 103 |
| MAT 200 Introduction to Statistics |  | MAT 200 Introduction to Statistics |
|  |  | PCS 120 College Physics I (Lab) (4) |
| **MAJOR: 52 hrs** |  |  |
| **Mathematics Core (22)** |  | **MAJOR: 76-77 hrs** |
|  |  | **Mathematics Core (22)** |
| **Mathematics Elective (22):** |  |  |
| MAT 421 Calculus III (4), AND |  | **Mathematics Elective (15-16):** |
| at least 9 more hours of 400-Level MAT |  | MAT 300 College Geometry, AND |
|  |  | at least 6 hours of 400-Level MAT |
| **Associated Fields (8)** |  |  |
| **Secelct one cycle** |  | **EDU SEQUENCES (39)** |
| PCS 120-121, 122-123 (Physics I and II) |  |  |
| PCS 230-231, 232-233 (Physics with Calculus I and II) |  |  |
|  |  |  |
| **GENERAL ELECTIVE: 19-20 hrs** |  |  |

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| **MATH-QS: 120 hours** |  | **MATH-IT Concentrations: 120-122 hours** |
|  |  |  |
| **GEN ED Required: 48-49 hrs** |  | **GEN ED Required: 48-49 hrs** |
| SCI 103 Writing for the Sciences |  | ENG 103 or SCI 103 |
| MAT 200 Introduction to Statistics |  | MAT 200 Introduction to Statistics |
| BIO 122 (Lab) (4) |  |  |
|  |  | **MAJOR: 63-64** |
| **MAJOR: 59 - 63 hrs** |  | **Mathematics Core (22)** |
|  |  |  |
| **Mathematics Core (22)** |  | **Mathematics Elective (9-10):** |
|  |  | MAT 310 Abstract Algebra, AND |
| **Mathematics Elective (13):** |  | at least 6 hours of 400-Level MAT |
| MAT 320 Linear Algebra |  |  |
| MAT 420 Differential Equations |  | **Associated Fields (8 hrs)** |
| MAT 421 Calculus III (4) |  | **Secelct one cycle** |
| MAT 430 Numerical Analysis |  | PCS 120-121, 122-123 (Physics I and II) |
|  |  | PCS 230-231, 232-233 (Physics with Calculus I and II) |
| **Associated Fields Required (24 -28)** |  |  |
| **Secelct one cycle** |  | **IT Required (12 hrs):** |
| PCS 120-121, 122-123 (Physics I and II) |  | MIT 225 - Hardware and operating system |
| PCS 230-231, 232-233 (Physics with Calculus I and II) |  | MIT 245 - Introduction to network technology |
|  |  | MIT 265 - Systems administration |
| **Complete Either** |  | MIT 325 - Network architecture |
| **the Biology Minor** (12-16), AND |  |  |
| **one course numbered** |  | **IT Elective (12 hrs):** |
| **CHE 121 or above, or GEO 125 or above** (4) |  | **Select one of the following Concentrations** |
|  |  | **Cyber Attacks Concentration (12 hrs)** |
| **OR** |  | MIT 336 - System assurance security (4) |
| **the Accounting Minor** (18) |  | MIT 446 - Cyber defense and counter measures (4) |
|  |  | MIT 456 - Cyber attacks and ethical hacking (4) |
|  |  | OR |
| **GENERAL ELECTIVE: 8 - 13 hrs** |  | **Computer Forensics Concentration (12 hrs)** |
|  |  | MIT 335 - Organization security and cyber attacks (4) |
|  |  | MIT 445 - Application security (4 hrs) |
|  |  | MIT 455 - Computer forensics (4 hrs) |
|  |  |  |
|  |  | **GENERAL ELECTIVE: 7-9 hrs** |

DETAILED GRIDS on next pages

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| **BS in Mathematics** |  | **BS in Secondary Mathematics Education** |
| **MATH: 120 hrs** |  | **MATH-ED: 124-126 hrs** |
| **GEN ED Required: 48-49** |  |  |
| ENG 103 or SCI 103 |  | **GEN ED Required: 48-49** |
| MAT 200 Introduction to Statistics |  | ENG 103 or SCI 103 |
|  |  | MAT 200 Introduction to Statistics |
| **MAJOR: 52 hrs** |  | PCS 120-121 College Physics I (Lab) (4) |
| **Mathematics Core (22 hrs)** |  |  |
| MAT 121 Pre-Calculus (4) |  | **MAJOR: 76-77 hrs** |
| MAT 215 Computer Programming (4) |  |  |
| MAT 221 Calculus I (4) |  | **Mathematics Core (22 hrs)** |
| MAT 321 Calculus II (4) |  | MAT 121 Pre-Calculus (4) |
| MAT 330 Discrete Mathematics |  | MAT 215 Computer Programming (4) |
| MAT 450 Senior Seminar in Mathematics |  | MAT 221 Calculus I (4) |
|  |  | MAT 321 Calculus II (4) |
| **Mathematics Elective (22 hrs):** |  | MAT 330 Discrete Mathematics |
| MAT 421 Calculus III (4), AND |  | MAT 450 Senior Seminar in Mathematics |
| **Select at least three 4\*\* MAT courses, example list** |  |  |
| MAT 298 Special Topics in Mathematics |  | **Mathematics Elective (15-16 hrs):** |
| MAT 299 Independent Study in Mathematics |  | MAT 300 College Geometry, AND |
| MAT 300 College Geometry |  | **Select at least 6 hours of 4\*\* MAT courses** |
| MAT 310 Abstract Algebra |  | MAT 4\*\* |
| MAT 320 Linear Algebra |  | MAT 4\*\* |
| MAT 410 Real Analysis |  | MAT |
| MAT 420 Differential Equations |  | MAT |
| MAT 430 Numerical Analysis |  |  |
| MAT 480 Mathematics Internship (1-3) |  | **EDU (9 hrs)** |
| MAT 498 Special Topics in Mathematics |  | EDU 225 Lifespan Development … |
| MAT 499 Independent Study in Mathematics |  | EDU 230 C.E. of Differentiated Instruction |
|  |  | EDU 325 Diff. Curriculum and Instruction |
| **Associated Fields (8 hrs)** |  | EDU 100: PSOE ADMISSION (0) |
| **Secelct one cycle** |  |  |
| PCS 120-121, 122-123 (Physics I and II) |  | **Professional Sequence (30 hrs)** |
| PCS 230-231, 232-233 (Physics with Calculus I and II) |  | EDU 327 Differentiated Instruction & Assessment |
|  |  | EDU 329 Teaching in the Inclusion Classroom |
| **GENERAL ELECTIVE: 19-20 hrs** |  | EDU 384 Differentiation through Technology |
|  |  | EDU 399 CP: Reading and Writing in Content Areas |
|  |  | EDU 440 CP: Spirituality and the Nurturing Classroom |
|  |  | EDU 472 CP: Mathematics |
|  |  | EDU 496 Clinical Residency with Seminars (12) |
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| **BS Math: Quantitative Sciences Concentration** |  | **BS Math: Cyber Security Concentrations** |
| **MATH-QS concentration: 120 hours** |  | **MATH-IT Concentrations: 120-122 hours** |
|  |  |  |
| **GEN ED Required: 48 - 49** |  | **GEN ED Required: 48-49 hrs** |
| SCI 103 Writing for the Sciences |  | ENG 103 or SCI 103 |
| MAT 200 Introduction to Statistics |  | MAT 200 Introduction to Statistics |
| BIO 122-123 (Lab) (4) |  |  |
|  |  | **MAJOR: 63-64** |
| **MAJOR: 59 - 63 hours** |  | **Mathematics Core (22)** |
|  |  | MAT 121 Pre-Calculus (4) |
| **Mathematics Core (22 hrs)** |  | MAT 215 Computer Programming (4) |
| MAT 121 Pre-Calculus (4) |  | MAT 221 Calculus I (4) |
| MAT 215 Computer Programming (4) |  | MAT 321 Calculus II (4) |
| MAT 221 Calculus I (4) |  | MAT 330 Discrete Mathematics |
| MAT 321 Calculus II (4) |  | MAT 450 Senior Seminar in Mathematics |
| MAT 330 Discrete Mathematics |  |  |
| MAT 450 Senior Seminar in Mathematics |  | **Mathematics Elective (9-10):** |
|  |  | MAT 310 Abstract Algebra, AND |
| **Mathematics Elective (13 hrs):** |  | at least 6 hours of 400-Level MAT |
| MAT 320 Linear Algebra |  |  |
| MAT 420 Differential Equations |  | **Associated Fields (8 hrs)** |
| MAT 421 Calculus III (4) |  | **Secelct one cycle** |
| MAT 430 Numerical Analysis |  | PCS 120-121, 122-123 (Physics I and II) |
|  |  | PCS 230-231, 232-233 (Physics with Calculus I and II) |
| **Associated Fields Required (24 -28 hrs)** |  |  |
| **Secelct one cycle** |  | **IT Required (12 hrs):** |
| PCS 120-121, 122-123 (Physics I and II) |  | MIT 225 - Hardware and operating system |
| PCS 230-231, 232-233 (Physics with Calculus I and II) |  | MIT 245 - Introduction to network technology |
|  |  | MIT 265 - Systems administration |
| **Complete Either** |  | MIT 325 - Network architecture |
| **the Biology Minor** (12-16), AND |  |  |
| **one course numbered** |  | **IT Elective (12 hrs):** |
| **CHE 121 or above, or GEO 125 or above** (4) |  | **Select one of the following Concentrations** |
|  |  | **Cyber Attacks Concentration (12 hrs)** |
| **OR** |  | MIT 336 - System assurance security (4) |
| **the Accounting Minor** (18) |  | MIT 446 - Cyber defense and counter measures (4) |
|  |  | MIT 456 - Cyber attacks and ethical hacking (4) |
|  |  | OR |
| **GENERAL ELECTIVE: 8 - 13 hrs** |  | **Computer Forensics Concentration (12 hrs)** |
|  |  | MIT 335 - Organization security and cyber attacks (4) |
|  |  | MIT 445 - Application security (4 hrs) |
|  |  | MIT 455 - Computer forensics (4 hrs) |
|  |  |  |
|  |  | **GENERAL ELECTIVE: 7-9 hrs** |