

MATHEMATICS – Applied Option BS (122 hours) Effective 2017-2020

| | | |
|------|-----|---|
| NAME | PID | Optional 2 nd Major or Minor |
|------|-----|---|

FOUNDATIONS

| English Comp. and Rhetoric | Foreign Language* | | Quant. Reas. (QR) | Lifetime Fitness (LFT) |
|----------------------------|-------------------|----|-------------------|------------------------|
| | 1. | 3. | MATH 231 | (1 hr.) |
| | 2. | 4. | | |

* Through Level 3

APPROACHES

| Phys. and Life Sciences (PX/PL) | Social and Behavioral Sciences** | Humanities/Fine Arts |
|------------------------------------|----------------------------------|-------------------------|
| | Hist. Analysis (HS): | Vis. & Perf. Arts (VP): |
| PHYS 104 or 114 or 116 or 118 † | Soc.Sci./Hist. Analysis (SS/HS): | Literary Arts (LA): |
| | Soc.Sci./Hist. Analysis (SS/HS): | Phil. Reasoning (PH): |

**From at least two different departments

CONNECTIONS

| Communication Int. (CI) | Quant. Int. (QI) or 2nd Quant. Reas. (QR) | Experiential Ed. (EE) | Global Issues (GL) |
|-------------------------|---|------------------------|--------------------|
| | MATH 232 | | |
| US Diversity (US) | North Atlantic World (NA) | World before 1750 (WB) | Beyond the NA (BN) |

MAJOR/MINOR/ELECTIVES

| ADDITIONAL REQUIREMENTS | MATHEMATICS (Applied) ♦ Core Requirements (10 Courses) | | | |
|---|--|--|--|--|
| MATH 231 | COMP 110 or 116 | | | |
| MATH 232 | MATH 381** | | | |
| MATH 233 | MATH 383 | | | |
| PHYS 104 or 114 or 116 or 118 † | MATH 521 | | | |
| PHYS 105 or 117 † | Five of MATH⊗ 522, 523, 524, 528, 529, 535, 548, 564, 566, 661, 668, the full sequence of MATH 383L, MATH 528L, and MATH 529L (check co-and pre-reqs for 383L, 528L, and 529L) | | | |
| | | | | |
| Non-MATH Natural Sciences (#) | ⊗ <i>At least three from 528, 529, 564, 566, 661, 668, the full sequence of 383L+528L+529L</i> | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | MATH 347/547* or 577 | | | |
| * Linear Algebra is now MATH 347. Was MATH 547 prior to Fall 2020. | | | | |

♦ 18 hours ≥ C (not C-) required in MATH courses numbered above 520. † If taking PHYS 104, must also take PHYS 105; if taking PHYS 116, must also take PHYS 117. PHYS 114 and 118 do not require an additional PHYS course. PHYS 118 highly recommended.
 (#) Four or more courses in the Division of Natural Sciences and Mathematics, (beyond the General Education requirements) but not taken in the Mathematics department. STOR 555 can be counted here.
MATH 535/STOR 435 and STOR 555 are strongly recommended.
 **A current/former major in statistics and analytics (mathematical decision sciences) may substitute STOR 215 for MATH 381.

| Remaining courses after this term: | Hours to be deducted: | Hours Tally: | Notes: |
|------------------------------------|----------------------------|-------------------------|--------|
| ___ Foundations | Repeated courses | Hours to date: | |
| ___ Approaches | HSFL | Hours in progress | |
| ___ Connections | Online courses > 24 | Pending Study Abroad* | |
| ___ Supplemental | Other | Subtotal | |
| ___ (hrs C ___) | Professional School > 30 | Hours deducted | |
| ___ (hrs C ___) | Hours in subject (BA) > 45 | Hours after this term | |
| ___ (hrs C ___) | Total | Hours remaining to grad | |
| Requirements subtotal | | Semesters left | |
| Total | | | |

**Pending study abroad hours may differ from hours earned.*

This tally assumes successful completion of presently enrolled courses (not AB or IN), and it does not account for all possible overlaps

Graduate and Career Opportunities

B.A. or B.S. degree with a major in mathematics, suggestions for pure mathematics:

These courses provide a solid theoretical understanding of central mathematics and excellent preparation for graduate study in mathematics or the mathematical sciences.

- MATH 521
- MATH 522
- MATH 577
- MATH 578
- Enough upper-level mathematics courses to satisfy the degree requirements

Those planning graduate study in mathematics or the mathematical sciences may consider taking some of MATH 653, 676, 680, or subsequent courses.

B.S. degree with a major in mathematics, suggestions for mathematical biology:

For students interested in careers or further study in mathematical life sciences.

- BIOL 101 and CHEM 101 or CHEM 102
- At least one of BIOL 201, 202, 205
- At least two of BIOL 454, 526, 551, 553
- MATH 521
- One of MATH 522, 523, 528, 566
- One of MATH 534, 548, 578
- MATH 347/547* or 577
- Three or more mathematics courses numbered above 500. Consider especially MATH 524, 529, 535, and 564