# Mathematics

Bachelor of Arts (BA.MATH)

| Core Requirements | | | | Credits | Notes/Instructions |
|---|---|---|---|---|---|
| College Sem. | | Quest for Meaning | CSEM 100 | 3 | †A student may be required to take ENGL 105 and/or MATH 100 based on placement exams administered prior to their first semester at King's College. ENGL 105 and MATH 100 are 3-credit courses and will count as free electives.<br>†† The Intercultural Competence requirement can be satisfied by taking a 100-level language class for 3 credits or participating in an approved Study Abroad experience. (See college catalog for more information)<br>**SBM** = Satisfied By Major requirement(s) and credit(s) listed below. |
| Communication & Creative Expression | | Writing | ENGL 110† | 3 | |
| | | Oral Communication | COMM 101 | 3 | |
| | | Literature | ENGL 140-149 | 3 | |
| | | The Arts | ARTS 100-149 | 3 | |
| Citizenship | | History | HIST 100-149 | 3 | |
| | | Intercultural | FREN/GERM/SPAN 100-level or Study Abroad†† | 3 | |
| | | Global Connections | ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199 | 3 | |
| Quantitative & Scientific Reasoning | SBM | Quantitative Reasoning | MATH 120† or higher level | - | |
| | SBM | Scientific Endeavor | NSCI 100 | - | |
| | SBM | Science in Context | NSCI 171-199 | - | |
| | | Human Beh. & Soc. Inst | ECON 111[10], 112; GEOG 101, 102; PS 101, PSYC 101, SOC 101 | 3 | |
| Wisdom, Faith, & the Good Life | | Introduction to Phil. | PHIL 101 | 3 | |
| | | Phil. Investigations | PHIL 170-199 | 3 | |
| | | Theology & Wisdom | THEO 150-159 | 3 | |
| | | Theology & the Good Life | THEO 160-169 | 3 | |
| | | | **Total Core Credits** | **39** | |

| Major Requirements | Credits | Major Requirements | Credits | Electives[3] / Other Requirements | Credits |
|---|---|---|---|---|---|
| MATH 127[2,5] | 3 | CS 112 | 3 | HCE 101 Holy Cross Exp. | 1 |
| MATH 129[5] | 4 | CS 111 or CS 120 | 3 | Free Elective | 3 |
| MATH 130 | 4 | Science Group[2,]* | 3 | Free Elective | 3 |
| MATH 231[6] | 4 | Science Group[2,]* | 3 | Free Elective | 3 |
| MATH 235[6] | 3 | MATH Track** | 3 | Free Elective | 3 |
| MATH 250 | 4 | MATH Track** | 3 | Free Elective | 3 |
| MATH 367 | 3 | MATH Track** | 3 | Free Elective | 3 |
| MATH 425 | 3 | MATH Track** | 3 | Free Elective | 3 |
| MATH 490 | 1 | MATH Track** | 3 | Free Elective | 3 |
| **Total Major Credits** | **29** | **Total Major Credits** | **27** | **Total Elective / Other Credits** | **25** |

**Total Credits Required for Graduation = 120**

*All students majoring in Mathematics must take one of the Science Groups below (lab portion not required):

| Science Group 1* | | Science Group 2* | | Science Group 3* |
|---|---|---|---|---|
| CHEM 113<br>CHEM 114 | OR | PHYS 111<br>PHYS 112 | OR | PHYS 113 *(Calculus based)*<br>PHYS 114 *(Calculus based)* |

**In addition to the above, each B. A. Mathematics Major must complete one of the following three tracks:

| MATH Track 1<br>Graduate School | | MATH Track 2<br>Actuary Science, Industry, & Government | | MATH Track 3<br>Secondary Education |
|---|---|---|---|---|
| Students must take five (5) math courses numbered 300 or higher. Typical options are: | | Students must take five (5) math courses numbered 300 or higher. The following (5) courses are recommended | | See program planner specifically designed for Math / Secondary Education |
| MATH 301 | MATH 365 | MATH 301 | MATH 363 | |
| MATH 361 | MATH 418 | MATH 361 | MATH 365 | |
| MATH 362 | MATH 420 | MATH 362 | | |
| MATH 363 | MATH 391/491 | | | |

*See reverse side for a suggested sequence*

*Effective 07/01/23*

# Mathematics

## Suggested Sequence

A suggested course sequence of degree requirements is listed below. Refer to the college catalog for course titles, descriptions, and prerequisites. Always consult your Academic Advisor when planning and scheduling your classes.

| | Fall | Credits | | Spring | Credits |
|---|---|---|---|---|---|
| | MATH 127[5] Logic & Axiomatics | 3 | | MATH 130 Analytic Geometry & Calculus II | 4 |
| | MATH 129[5] Analytic Geometry & Calculus I | 4 | | CS 111[9] Program. for Sci. & Eng. **or** Core Course[1] | 3 |
| | Core Course[1] | 3 | | Core Course[1] | 3 |
| | Core Course[1] | 3 | | Core Course[1] | 3 |
| | Core Course[1] | 3 | | Core Course[1] | 3 |
| | HCE 101 Holy Cross Experience | 1 | | | |
| | | **17** | | | **16** |
| | **Summer** | **Credits** | | | |
| | | | | | |
| | **Fall** | **Credits** | | **Spring** | **Credits** |
| | MATH 231[6] Analytic Geometry & Calculus III | 4 | | MATH 250 Linear Algebra | 4 |
| | MATH 235[6] Discrete Mathematics | 3 | | Core Course[1] or Free Elective [3, 4, 7] | 3 |
| | Core Course[1] | 3 | | Core Course[1] | 3 |
| | CS 112[8] Intro. to Programming | 3 | | CS 111[9] Program. for Sci. & Eng. **or** CS 120[8] OO | |
| | Science Group[2,*] | 3 | | Software Development or Core Course[1] | 3 |
| | | **16** | | Science Group[2,*] | 3 |
| | | | | | **16** |
| | **Summer** | **Credits** | | | |
| | | | | | |
| | **Fall** | **Credits** | | **Spring** | **Credits** |
| | MATH 367[11] Real Analysis I or MATH 425[11] Abstract Algebra | 3 | | MATH 490 Junior Seminar | 1 |
| | MATH Track** | 3 | | MATH Track** | 3 |
| | Core Course[1] | 3 | | MATH Track** | 3 |
| | Core Course[1] | 3 | | Core Course[1] | 3 |
| | Free Elective [3, 4, 7] | 3 | | Free Elective [3, 4, 7] | 3 |
| | | **15** | | | **13** |
| | **Summer** | **Credits** | | | |
| | | | | | |
| | **Fall** | **Credits** | | **Spring** | **Credits** |
| | MATH 367[11] Real Analysis I or MATH 425[11] Abstract Algebra | 3 | | MATH Track** | 3 |
| | MATH Track** | 3 | | Core Course[1] or Free Elective [3, 4, 7] | 3 |
| | Core Course[1] | 3 | | Free Elective [3, 4, 7] | 3 |
| | Free Elective [3, 4, 7] | 3 | | Free Elective [3, 4, 7] | 3 |
| | Free Elective [3, 4, 7] | 3 | | | 3 |
| | | | | | Dd ye |
| | | **15** | | | **12** |

**Total Credits Required for Graduation = 120**

**NOTES:**

[1] Choose one course from each of the Core Requirements listed on the reverse side.

[2] Course may satisfy both a Major and a Core requirement.

[3] Students may select "free electives" for personal enrichment **OR** for Minor and/or Second Major Requirements.

[4] ECON 222 is recommended for students on MATH Track 2. MATH 362 substitutes for ECON 221 as course prerequisite.

[5] Courses intended to be taken concurrently. Do not delay taking MATH 127.

[6] Courses intended to be taken concurrently. Do not delay taking MATH 235.

[7] MATH 238 is recommended for students on MATH Tracks 1 and 2.

[8] Students contemplating MATH and CS double-majoring and with a high GPA may take CS 112 and CS 120 in their 1st year.

[9] CS 100 may be substituted for CS 111.

[10] ECON 111 Intro to Macroeconomics is highly recommended for students on MATH Track 2.

[11] MATH 367 is offered fall semesters odd years only and MATH 425 is offered fall semesters odd years only.

[PR] Course has a prerequisite – check college catalog.