# Computer Science + Masters in Business Administration (147 Hours)

Effective F2022

| Freshman | | Sophomore | | Junior | | Senior | | 5th Year | |
|---|---|---|---|---|---|---|---|---|---|
| CIS 115 (3) Intro. Comp. Sci | CIS 200 (4) Programming Fund. PR: CIS 115 or ECE 241 PR/CO: Math 205 or 220 | CIS 300 (3) Data & Program Structures PR: CIS 200 PR: Math 205 or 220 | CIS 400 (3) Object-Oriented Design, Imp., & Testing PR: CIS 300 | CIS 501 (3) SW Arch. & Design PR: CIS 400 | CIS 575 (3) Intro to Alg. Analysis PR: CIS 300 and 301 PR: Math 510 | CIS 598 (3)/ CIS 642 (3) CIS 598 PR: CIS 560 CIS 642 PR: CIS 308 & 501 | MANGT 810 (3) Operations & Supply Chain Management PR: STAT 510 | CIS 505 (3) Intro. to Programming Languages PR: CIS 301 & 400 | CIS 520 (3)/ CIS 525/625 (3) *CIS 520 is offered in Spring & CIS 525/625 in the Fall CIS 520/625 PR: CIS 400 & 450 CIS 525 PR: CIS 300 & 308 |
| Math 220 (4) Calculus I | CIS 221 (4) Calculus II PR: Math 220 | CIS 301 (3) Log. Found of Prog. PR: CIS 200 | CIS 308 (1) C Lang. Lab PR: CIS 300 | CIS 415 (3) Ethics & Conduct PR: CIS 300 | CIS 450 (3) Comp. Arch & Ops PR: ECE 241 PR: CIS 308 | MANGT 820 (3) Managing Organizational Behavior | MKTG 810 (3) Marketing Concepts & Research PR: STAT 510, Math 220, & either ECON 110 or 120 | MANGT 880 (3) Business Strat. PR: ACCTG 810, FINAN 815, MKTG 810, MANGT 810, 820, 830, ECON 815, STAT 510 | MANGT 860 (3) Business Strat. PR: ACCTG 810, FINAN 815, MKTG 810, MANGT 810, 820, 830, ECON 815, STAT 510 |
| ENGL 100 (3) Writing 1 | ECE 241 (3) Intro. Com. Engg. | ENGL 200 (3) Writing 2 PR: ENGL 100 | Math 510 (3) Discrete Math PR: Math 221 | CIS 560 (3) Database System PR: CIS 300, 301 PR/CO: Math 312 or 510 | Tech Elective (3) | ACCTG 810 (3) Foundations of Accounting PR: Math 220 | FINAN 815 (3) Foundations of Finance PR: ACCTG 810 | Tech Elective (3) | GENBA 890 (3) Bus. Cap. /GENBA MBA Intern. (3) GENBA 890 PR: ACCTG 860, FINAN 815, GENBA 880, MKTG 810 |
| ECON 110 (3) Princ. of Mac. Econ | 1 Natural Science Choose Seq. 1 out of 2 | 2 Natural Science Choose Seq. 2 out of 2 | 1 Math/ Natural Sci. Elective * 300 Level & above | Human/Soc Sci. Elective (3) | STAT 510 (3) Intro. to Prob. & Stats PR: Math 221 | 2 Math/ Natural Sci. Elective | ECON 815 (3) Economic Analysis for Business PR: ECON 110, 120, Math 220 | Tech Elective (3) | 3 Math Elective |
| COMM 105 (2)/ COMM 106 (3) Public Speaking | | ECON 120 (3) Princ. of Mic. Econ | Communications Elective | Human/Soc Sci. Elective (3) | ENGL 516 (3)/ ENGL 415 (3) Writing Comm. for Sci./Engg. PR: ENGL 200 | Unrestricted Elective (3/4) | | Human/Soc Sci. Elective (3) | Unrestricted Elective (3) |
| CIS 015 (0) Undergrad Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar | CIS 018 (0) Professional Development Seminar |

This course is part of the Pre-Professional Program

This course is part of the Prof. Program *018 required every sem.

Advisor: _____ Student ID: _____

# Rules for Mathematics, Science, and Electives

## Math/Science Electives

1 2 All remaining hours, choose from the following:

BIOCH 625 Intro.Organic & Biochemistry (5)
BIOCH 521 General Biochemistry (3)
BIOL 198 Principles of Biology (4)
BIOL 201 Organismic Biology (5)
BIOL 450 Modern Genetics (4)
BIOL 455 General Microbiology (4)
CHM 210 Chemistry I (4)
CHM 230 Chemistry II (4)
CHM 350 General Organic Chemistry (3)
CHM 371 Chemical Analysis (4)
CHM 531 Organic Chemistry I (3)
CHM 550 Organic Chemistry II (3)
GEOL 100 Earth in Action (3)
GEOL 102 Earth in Time (3)
GEOL 103 Geology Laboratory (1)
GEOL 502 Mineralogy (3)
STAT 511 Intro. Probability and Stat. II (3)
MATH 222 Analytic Geo. and Calculus III (4)
MATH 340 Elementary Diff. Equations (4)
MATH 506 Introduction to Nmbr Theory (3)
MATH 511 Introduction to Algebraic Sys. (3)
MATH 512 Introduction to Modern Alg. (3)
MATH 515 Introduction to Linear Alg. (3)
MATH 551 Applied Matrix Theory (3)
MATH 572 Foundations of Geometry (3)
MATH 633 Advanced Calculus I (3)
PHYS 113 General Physics (4)
PHYS 114 General Physics II (4)
PHYS 213 Engineering Physics I (5)
PHYS 214 Engineering Physics II (5)
PHYS 223 Physics I, Mech., & Thermodynamics (5)
PHYS 224 Physics II, Electromag. & Sound (5)
PHYS 325 Physics III, Relativity, and Quant. Phys. (4)

3 One of the following math courses must be included:

MATH 222 Analytic Geometry and Calc. III (4)
MATH 340 Elementary Differential Equ.s (4)
MATH 506 Intro. to Number Theory (3)
MATH 511 Intro. to Algebraic Systems (3)
MATH 512 Intro. to Modern Algebra (3)
MATH 515 Introduction to Linear Algebra (3)
MATH 551 Applied Matrix Theory (3)
MATH 572 Foundations of Geometry (3)
MATH 633 Advanced Calculus I (3)
STAT 511 Introductory Probability and Stat. II (3)

## MBA Tech Electives

Students are required to complete 15 hours of Tech Electives

Required Tech Elective: 3 hours
CIS 520 Operating Systems I (spring course only)
or CIS 625 Parallel Programming (fall course only)

Capstone Experience: 9hrs
Students get the choice between two different pathways for capstone. They need 9 hours total.

| Individual Project Path: | OR | Dual Group Project Path: |
|---|---|---|
| CIS 598 Computer Science Project (3) | | CIS 642 Software Engineering Project I- (3) (F only) |
| Additional Tech Elective (3) | | CIS 643 Software Engineering Project II- (3) (S only) |
| Additional Tech Elective (3) | | Additional Tech Elective (3) |

Three courses taken for graduate credit from the following list:
CIS 731 Programming Techniques for Data Science and Analytics
CIS 732 Machine Learning and Pattern Recognition
MIS 670 Social Media Analytics and Web Mining

At most one of:
MIS 665 Business Analytics and Data Mining
MKTG 880 Applied marketing Analytics
MKTG 881 Advanced Marketing Analytics

Other data analytics courses, including special topics courses, approved by both the Department of Computer Science and the College of Business Administration.

## Natural Science Sequence

1 2 One of the following two-semester sequences must be included:

BIOL 198 and 401 (9 Hours)
CHM 210 and 230 (8 hours )
PHYS 213 and 214 (10 Hours)
PHYS 223 and 224 (10 Hours)

## Communications Elective Choices

Options:

COMM 322 Interpersonal Communications (9)
COMM 326 Small Group Discussion Methods (3)
MANGT 420 Principles of Management (3)
THTRE 261 Fundamentals of Acting (3)
THTRE 265 Fundamentals of Improvisation (3)

## Humanities/Social Science Electives

Suggestions:

ARCH 301 Appreciation of Architecture (3)
COMM 323 Nonverbal Communication (3)
ENGL 270 American Literature (3)
GWSS 350 Gender in American Film (3)
GWSS 550 Women and Popular Culture (3)
MUSIC 170 History of Rock and Roll (3)

engg.ksu.edu/docs/student-services/hss.pdf