

Washburn University

Bachelor of Science in Computer Information Science With Concentration in Data Science

Effective Fall 2024

Program Requirements CIS (46 Total)

Core – 13 hours

- CM111 Intro to Structured Programming (4)
- CM231 Computer Organization/Assembler (3)
- CM245 Contemporary Programming Methods (3)
- CM261 Networked Systems (3) (F)

Required – 21 hours

- CM307 Data Structs. & Alg. Analysis (3)
- CM322 Operating Systems (3) (F)
- CM331 Artificial Intelligence (3) (S)
OR CM332 Data Mining (3) (F)
- CM333 Software Engineering (3) (F)
- CM334 Modeling with VBA/Excel (3) (S)
- CM336 Database Management Systems (3) (S)
- CM465 CIS Capstone Project (3)

CM Electives – 12 hours

Courses should be selected in consultation with a department advisor. A minimum of 6 hours must be upper-division. Recommend CM105 (*SL)

Program Requirements Non-CIS (32 total)

- MA140 Statistics (*MA *SL) (3)
- MA151 Calculus & Analytic Geometry I (*MA) (5)
- MA206 Discrete Mathematics for Computing (3)
- PH220 Symbolic Logic (*HU) (3)
- EC200 Principles of Microeconomics (*SS) (3)
OR EC201 Principles of Macroeconomics (*SS) (3)
- CN340 Interviewing (3)
OR CN341 Persuasive Speaking (*HU) (3) (S)
OR CN342 Communication - Team and Groups (*HU) (3) (F)
- BU342 Organization and Management (3)
OR BU346 Organizational Behavior (3)
- Three of the following:**
MA301(3); MA307(3); MA340(3); MA341(3)
MA342 (3); MA344 (3); MA346 (3); MA348 (3)

*These courses are part of the gen ed program.

(F) Indicates Fall Semester only. (E) Even years only.

(S) Indicates Spring Semester only. (O) Odd years only.

General Education Requirements (34-35 Total)

Composition – 6 hours

- EN 101: Introductory College Writing (3)
- EN 200: Intermediate College Writing (3)

Math (*MA) – 3 hours

- MA112 or higher

Communication Studies – 3 hours

- CN101 or CN150 or CN351

Natural Science (with Lab) – 5 hours

Social Sciences (*SS) – 6 hours

Two disciplines

Humanities (*HU) – 6 hours

Two disciplines

Institutionally Designated (Two disciplines) – 6 hours

Inclusion and Belonging (*IB) – 3 hours

Scientific Reasoning and Literacy (*SL) – 3 hours

Degree Requirements

WU101 The Washburn Experience (3)

EN300 Advanced College Writing (3)
OR EN308 Technical Writing (3)

BS Natural Science/Mathematics Concentration (30) - At least 15 hours in one discipline.

For a complete listing of the requirements for the bachelor's degree, please consult the University catalog. Although you, the student, are ultimately responsible for ensuring that the minimum degree requirements are met, you should choose a departmental advisor during your freshman year to assist you.

Notes:

- Of the minimum 120 hours required to graduate, 72 hours must be **outside your major**.
- Of the minimum 120 hours required to graduate, 99 hours must be **College of Arts & Sciences** credits.
- You must take at least **45 hours of upper-division** coursework (numbered 300 or above).
- No course required for the degree (major, minor, or correlated) may be taken pass/fail and a **grade of C or better** is required.
- Transfer students must take at least **9 hours of upper-division** CM courses from Washburn. Transfer hours in your major must be approved by the Department. At least 25% of credit hours required for the major must be taken at Washburn.

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Dr. Nan Sun, Chair
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