

**COMPUTER INFORMATION SYSTEMS  
STENDER SCHOOL OF BUSINESS AND TECHNOLOGY  
Beginning Fall 2025**

| YEAR      | FALL SEMESTER                                                                                                                                                                                | SPRING SEMESTER                                                                                                                                                 | VERITAS REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FRESHMAN  | DGN 1101 The Responsible Self 4 cr.<br><sup>1</sup> ENG 1110 First Year Composition 4 cr.<br>CIS 1001 Computer Science Principles 4 cr.<br>Veritas Course 4 cr.                              | DGN 1102 And Dignity for All 4 cr.<br><sup>1</sup> CME 1101 Interpersonal Communication 2 cr.<br>CIS 2011 Computing Architectures 4 cr.<br>Veritas Course 4 cr. | <p><b>Foundations</b> 18 credits (plus language requirement)<br/>Foundations courses need not all be completed in a student's first year.</p> <ol style="list-style-type: none"> <li>1) DGN 1101 or HON 1111 (4 cr.)</li> <li>2) DGN 1102 or HON 1112 (4 cr.)</li> <li>3) CME 1101 Interpersonal Communication (2 cr.)</li> <li>4) ENG 1110 First Year Composition (4 cr.)</li> <li>5) World Language+</li> <li>6) Math (4 cr.) (Met by CIS 1001)</li> </ol> <p>+The language requirement can be met by having completed three years of one language in high school, completing the 1112 in a language sequence, demonstrating equivalent proficiency at the same course levels through a placement exam, or being bilingual.</p> <p><b>Conceptions &amp; Integrations</b> 32 credits<br/>Students must complete 4 credits in each of the 7 disciplinary pathways plus 4 more credits in any pathway. 16 credits must be from Conceptions courses; 8 credits must be from Integrations courses.</p> <ol style="list-style-type: none"> <li>1) Social Sciences (may be met by MGT 3550 – Concentration Level)</li> <li>2) History</li> <li>3) Literature</li> <li>4) Fine Arts</li> <li>5) Religious Studies</li> <li>6) Philosophy</li> <li>7) Science (may be met by CIS 3115 – Concentration Level)</li> <li>8) Elective (Met by ENG 3364/MGT 3150 – Integration Level)</li> </ol> <p>To graduate from The College of St. Scholastica, students must complete a total of <b>120</b> credits of which <b>40</b> need to be <b>upper division credits</b> and the last <b>30</b> credits must be earned through St. Scholastica. Upper division credits are those numbered <b>3000 or greater</b> and <b>cannot</b> include graduate level credits.</p> <p><sup>1</sup> Course can be taken fall or spring semester.</p> |
| SOPHOMORE | CIS 2085 Programming I with Java 4 cr.<br>CIS 3107 Database Modeling 4 cr.<br>Course in Concentration<br>Veritas Courses 4 cr.                                                               | Course in Concentration<br>Veritas Course 4 cr.                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| JUNIOR    | Course in Concentration<br>Veritas Course 4 cr.<br>ENG 3364/MGT 3150 Management Communication: Written 4 cr. (this is a cross-listed course depending on which campus the course is offered) | CIS 3108 Systems Analysis & Design 4 cr.<br>CIS 4108 Project Management 2 cr.<br>Course in Concentration<br>Veritas Course 4 cr.                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SENIOR    | CIS 4109 Capstone Project 4 cr.<br>Course in Concentration<br>Veritas Course 4 cr.                                                                                                           | CIS 4555 Systems Development Internship 1-16 cr.<br>Course(s) in Concentration 4-8 cr.<br>Veritas Course 4 cr.                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

Page two contains a list of the different concentrations and required courses in each and for transfer students majoring in CIS.  
Page three contains schedules for HIM students who minor in CIS.

**CIS Concentrations** – All CIS majors are required to complete one of the following concentrations.

| <b>Software Development</b><br>(38 credits) | <b>Business Analysis</b><br>(34 credits)                                                                                                                                                                                                                                                                                                         | <b>Health Information</b><br>(36 credits)                                                                                                     | <b>Mathematics</b><br>(34 credits)                                             |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| CIS 2087 Programming w/Java II 4 cr.        | CIS 3205 Information Systems 4 cr.                                                                                                                                                                                                                                                                                                               | CIS 3205 Information Systems 4 cr.                                                                                                            | CIS 2087 Programming II w/Java 4 cr.                                           |
| CIS 3089 Data Structures 4 cr.              | CIS 4041 Web Design 4 cr.                                                                                                                                                                                                                                                                                                                        | CIS 4042 Computer Security 4 cr.                                                                                                              | CIS 3089 Data Structures 4 cr.                                                 |
| CIS 3115 Machine Learning of Data Sci 4 cr. | CIS 4042 Computer Security 2 cr.                                                                                                                                                                                                                                                                                                                 | HIM 2101 Medical Language 3 cr.                                                                                                               | CIS 3115 Machine Learning 4 cr.                                                |
| CIS 3230 Game Design and 3D Modeling 4 cr.  | ACC 2210 Prin. Financial Accounting 4 cr.                                                                                                                                                                                                                                                                                                        | HIM 2102 Pharmacotherapeutics 1 cr.                                                                                                           | CIS 4042 Computer Security 2 cr.                                               |
| CIS 3285 Software Design 4 cr.              | MGT 2120 Principles of Management 4 cr.                                                                                                                                                                                                                                                                                                          | HIM 2110 Conc and Princ of HIM 2 cr.                                                                                                          | MTH 2221 Calculus I 4 cr.                                                      |
| CIS 3334 Mobile Device Programming 4 cr.    | PSY 3331 Statistics,<br>or FIN 3550 Business Statistics,<br>or MTH 4411 Probability and Statistics I<br>or MTH 2442 Data Analytics & Ap Stats<br>or MGT 3130 Business Research & Decision-Making                                                                                                                                                 | HIM 2111 HIM Technologies in Prac 2 cr.                                                                                                       | MTH 2222 Calculus II 4 cr.                                                     |
| CIS 4041 Web Design 4 cr.                   | <b>Elective courses (12 credits total)</b><br>CME 2200 Presentation Impact<br>or CME 2221 Conflict in Communication<br>or CME 3101 Small Group Communication<br>or FIN 3420 Financial Management<br>or MGT 3550 Organizational Behavior (meets social science)<br>or MGT 4160 Legal Aspects of Management<br>or MKT 2320 Principles of Marketing | HIM 3132 Medicolegal Issues 4 cr.                                                                                                             | MTH 2401 Discrete Mathematics 4 cr.                                            |
| CIS 4042 Computer Security 2 cr.            |                                                                                                                                                                                                                                                                                                                                                  | HIM 4222 Clinical Data Mgt 4 cr.                                                                                                              | MTH 3322 Linear Algebra 4 cr.                                                  |
| CIS 4200 Full-Stack Web Development 4 cr.   |                                                                                                                                                                                                                                                                                                                                                  | HIM 4415 Health Data Analytics 4 cr.                                                                                                          | MTH 4411 Probability and Statistics I<br>or MTH 2442 Data Analytics & Ap Stats |
|                                             |                                                                                                                                                                                                                                                                                                                                                  | HSC 2203 U.S. Healthcare Sys 4 cr.                                                                                                            |                                                                                |
|                                             |                                                                                                                                                                                                                                                                                                                                                  | PSY 3331 Statistics,<br>or FIN 3550 Business Statistics,<br>or MTH 4411 Probability and Statistics I<br>or MTH 2442 Data Analytics & Ap Stats |                                                                                |

A custom concentration is also available where students can select 32 credits in a focused area with departmental approval.

**CIS Major for Transfer Students**  
**SCHOOL OF BUSINESS AND TECHNOLOGY**  
**Beginning Fall 2022**

| YEAR   | FALL SEMESTER                                                                                                                                             | SPRING SEMESTER                                                                                                                                         | VERITAS REQUIREMENTS                                                                                                      |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| JUNIOR | CIS 1001 Computer Science Principles 4 cr.<br>CIS 2085 Programming I with Java 4 cr.<br>CIS 3107 Database Modeling 4 cr.<br>Course in Concentration 4 cr. | CIS 2011 Computer Architectures 4 cr.<br>CIS 3108 Systems Analysis & Design 4 cr.<br>CIS 4108 Project Management 2 cr.<br>Course in Concentration 2 cr. | Assumed completed by transfer students or students changing majors with exception of religion and one integrations class. |
| SENIOR | CIS 4109 Systems Implementation 4 cr.<br>ENG 3364 Management Communications 4 cr.<br>Course in Concentration 4 cr.<br>Course in Concentration 4 cr.       | CIS 4555 Software Development Internship 4 cr.<br>Course in Concentration 4 cr.<br>Course in Concentration 4 cr.<br>Course in Concentration 4 cr.       |                                                                                                                           |

**CIS Minor**  
**SCHOOL OF BUSINESS AND TECHNOLOGY**  
**Beginning Fall 2022**

| YEAR | FALL SEMESTER                              | SPRING SEMESTER                          |                                                                                         |
|------|--------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------|
| 1    | CIS 1001 Computer Science Principles 4 cr. |                                          | This table illustrates one common sequence of courses--<br>other sequences are possible |
| 2    | CIS 2085 Programming I with Java 4 cr.     | CIS 3205 Information Systems 4 cr.       |                                                                                         |
| 3    | CIS 3107 Database Modeling 4 cr.           | CIS 3108 Systems Analysis & Design 4 cr. |                                                                                         |
| 4    |                                            |                                          |                                                                                         |