Dual Degree Program in Computer Science and Master of Software Engineering

Students with a computer science major who are also interested in software engineering are able to receive both a Bachelor of Science (BS) in Computer Science and a Master of Software Engineering (MSE) degree in five years. Students in this dual degree program should complete the following by the end of their junior year:

- CS 120 Software Design I 4
- CS 220 Software Design II 4
- CS 225 Discrete Computational Structures 1 3
- CS 270 Assembler Programming and Introduction to Computer Organization 3
- CS 340 Software Design III: Abstract Data Types 3
- CS 370 Computer Architecture 3
- CS 421 Programming Language Concepts 3
- CS 441 Operating System Concepts 3
- CS 442 Structures of Compilers 3
- MTH 207 Calculus I 5
- MTH 208 Calculus II 4
- Select nine credits of 300/400 level CS electives 2

1 may substitute MTH 225 for CS 225.
2 excluding CS 341

During the senior year, students should complete:

- CS 546 Object-Oriented Software Development 3
- CS 741 Software Engineering Principles 3
- CS 742 Formal Methods in Software Development 3
- CS 743 Software Verification and Validation 3
- Select three or six graduate level MSE electives 3-6

In the fifth year, students should complete:

- CS 744 Management Issues in Software Engineering 3
- Graduate level MSE electives 3-6
- Capstone project

CS 546 and CS 741 will count toward the 44 credit hours of computer science courses required for the BS degree. CS 742, CS 743, CS 744, 12 credits of CS 798 (capstone project), and nine credits of MSE electives will fulfill the MSE requirements.

Students may be accepted into the dual degree program anytime before they have completed 75 undergraduate credit hours. Applicants for undergraduate admission to UW-L may request admission into the dual degree program. In order to remain in the program students must maintain a 3.00 GPA. Award of the BS degree will occur upon completion of 120 credits, the CS major requirements, the SAH college core requirements, and the general university requirements. Students must have graduate student status prior to registering for their fourth graduate course (normally in the second semester of their senior year). Award of the MSE degree will occur after the completion of the BS and MSE requirements.

Contact the Department of Computer Science (http://www.cs.uwlax.edu) for application information. See the online graduate catalog for more information about the MSE program (http://catalog.uwlax.edu/graduate/programrequirements/softwareengineering).

Courses offered at both the undergraduate and graduate levels can only be taken for credit at one level.

Degree requirements

All students must complete the general education, college core, major/ minor, and university degree requirements in order to qualify for a degree. The easiest way to track all of these requirements is to refer to the Advisement Report (AR) found in the Student Information System (WINGS) Student Center. All enrolled students have access to the AR.

• General education (http://catalog.uwlax.edu/undergraduate/generaleducation)
• College core (p. 1)
• Baccalaureate degree requirements (p. 2)
• Master of Software Engineering requirements (http://catalog.uwlax.edu/graduate/programrequirements/softwareengineering/mse)

College of Science and Health (SAH) Bachelor of Science core requirements

B.S. and B.A. students graduating from the College of Science and Health are required to take two natural laboratory science courses selected from the general education laboratory science category (GE 05) and from BIO 203, BIO 304, BIO 210, CHM 104, ESC 221, ESC 222, PHY 104, or PHY 204, and they either must take two mathematics courses or one math course and one computer science course from the math/logical systems category of the general education requirements (GE 02). One of the two science courses must be from a department outside of the student’s major department.

Note: Math courses can be pairs, i.e. 150 and 151; MTH/CS majors can use two science courses from same department.

For the Bachelor of Science degree, students must complete a major from the college plus:
• a minor (or a second major) from any college or
• 18 credits at the 300/400 level in courses outside the major
department from any college. Internship credits generally do not count
toward this college core option.

Baccalaureate degree requirements

Candidates for the Bachelor of Arts or the Bachelor of Science degrees
must accomplish the following:

1. Fulfill the general education requirements.
2. Complete at least one ethnic studies (diversity) course.
3. Complete the courses prescribed by the Undergraduate Curriculum
   Committee for the degree desired in the respective school or
college. (No substitutions for graduation may be made in course
requirements for a major or minor after the fourth week of the last
semester of the senior year.)
4. Earn a minimum of 120 semester credits with at least a 2.00
cumulative GPA.¹ At least 40 credits must be earned in 300/400
(senior college) level courses. Courses earned at the 100/200 level
that transferred to UW-L as 300/400 level courses do not apply to
this requirement nor do courses from two-year schools.
5. Complete major and minor requirements with at least a 2.00
   GPA¹ in each major and minor (and concentration or emphasis, if
   selected).
6. A minimum of 30 semester credits in residence at UW-L is required
   for graduation. (See undergraduate resident requirement (http://
catalog.uwlax.edu/undergraduate/academicpolicies/graduation/
   #undergraduate-residence-requirement).)
7. File a completed “Apply for Graduation” form via the WINGS
   Student Center as soon as the student has registered for his or her
   final semester or summer term in residence. December and winter
   intersession graduates should file by May 1. May and summer
   graduates should file by December 1.

¹ Grade point average requirements for some programs will be
considerably higher than 2.00. Re-entering students may be required
to earn credits in excess of the 120 needed for graduation in any
curriculum in order to replace credits earned in courses in which the
content has changed substantially in recent years. Each case will be
judged on its own merit.

No degree will be awarded unless all requirements are fulfilled and
recorded within 30 days after the official ending date of each term.

Sample degree plan

Below is a sample degree plan that can be used as a guide to identify the
courses required to complete the major and other requirements needed
for degree completion. The actual degree plan may differ depending on
the course of study selected (second major, minor, etc.). This sample
plan also assumes readiness for each course and/or major plan. Actual
degree plans may differ. Some courses may not be offered every term.
Review course descriptions or the class timetable for course offering
information.

The sample degree plans represented in this catalog are intended for
first-year students entering UW-L in the fall term. Students should use the
Advisement Report (AR) in WINGS (https://wings.uwlax.edu/psp/csprod/?
cmd=login&amp;languageCd=ENG&amp;) and work closely with their
faculty advisor(s) and college dean’s office to ensure declaration and
completion of all requirements in a timely manner.

**General Education Program**

General education (Gen Ed) is the common educational experience
for all undergraduates at UW-L. Sample degree plans include Gen Ed
placeholders to ensure completion of the general education curriculum.
Courses may be rearranged to fit the needs or recommendations of the
student’s program of study. Gen Ed courses may be taken during winter
term (January between the semesters) and summer to reduce the course
load during regular terms (fall and spring). Consult with your advisor and/
or the assistant to the dean in your college for assistance with course and
schedule planning. Refer to the general education requirements (http://
catalog.uwlax.edu/undergraduate/generaleducation) for more specific
details.

Note: at least 40 credits of the 120 credits required must be earned at the
300/400 level.

**This sample degree plan does not establish a contractual agreement.**
**It identifies the minimum requirements a student must successfully complete, to qualify for a degree, in a format intended to assist the student plan their academic career.**

**Bachelor of Science in Computer Science/Master of Software Engineering Dual Degree sample plan:**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CS 120 (Gen Ed Lang/Literal Systems)</td>
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<td>CS 220</td>
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<td>MTH 207 (Gen Ed Math)</td>
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<td>CS 225</td>
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<tr>
<td>ENG 110 or 112 (Gen Ed Literacy-Written)</td>
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<td>MTH 208 (Gen Ed Math)</td>
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<tr>
<td>HIS 101, 102, or ARC 200 (Gen Ed World Hist)</td>
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<td>Gen Ed Natural Lab Science Elective</td>
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<tr>
<td>Gen Ed Arts</td>
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<td>17</td>
<td>15</td>
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<th>Fall</th>
<th>Credits</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>CS 270</td>
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<td>CS 370</td>
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<tr>
<td>CS 340</td>
<td>3</td>
<td>CS 300/400 Level Elective</td>
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<tr>
<td>CST 110 (Gen Ed Literacy-Ooral)</td>
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<td>CS 300/400 Level Elective</td>
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<tr>
<td>ECO 336 (Gen Ed Minority Cultures)</td>
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<td>Gen Ed Science Elective</td>
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<tr>
<td>Gen Ed Arts</td>
<td>2-3</td>
<td>Gen Ed Self &amp; Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>300/400 Level Elective (not from CS)</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>17</td>
<td>16</td>
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<th>Credits</th>
<th>Spring</th>
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<tbody>
<tr>
<td>CS 421</td>
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<td>CS 442</td>
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<td>CS 441</td>
<td>3</td>
<td>CS 300/400 Level Elective</td>
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<tr>
<td>Gen Ed Global Studies</td>
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<td>Gen Ed Health &amp; Well-Being</td>
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<tr>
<td>Gen Ed Hum-Lit</td>
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<td>300/400 Level Elective (not from CS)</td>
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Apply for "graduate special status" for Fall semester

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<tr>
<td></td>
<td>CS 741</td>
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<td></td>
<td>CS 743</td>
<td>3 CS 546</td>
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<td>MSE Elective</td>
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<tr>
<td></td>
<td>300/400 Level University Elective (not from CS)</td>
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<tr>
<td></td>
<td>University Elective</td>
<td>3 University Elective</td>
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<td></td>
<td>University Elective</td>
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Apply for "graduate special status" for Spring semester

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<th>Additional year</th>
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<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>CS 798</td>
<td>6 CS 744</td>
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<td></td>
<td>MSE Elective</td>
<td>3 CS 798</td>
<td>6</td>
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</table>

Total Credits: 150

Students also have the option of taking Gen Ed courses during Winter Intersession (January between Fall and Spring semesters) and Summer to reduce the load during regular semesters (Fall and Spring).

Additional UW-L and College of Science and Health core courses may be required.