# COMPUTER SCIENCE †

120 Hours

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Credit</th>
<th>Sophomore Year</th>
<th>Credit</th>
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<tr>
<td>UNIV 100</td>
<td>2</td>
<td>CMPS 261(^1)</td>
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<tr>
<td>CMPS 150</td>
<td>3</td>
<td>CMPS 310</td>
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<tr>
<td>EECE 140</td>
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<td>ENGL 101</td>
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<td>MATH 362</td>
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<td>MATH 270</td>
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<td>Elective (LIT)(^5)</td>
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<td>MATH 301</td>
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<td>Electives (SCI)(^3,6)</td>
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<tr>
<td>Elective (BHSC)(^2,3)</td>
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<td>Elective (HIST)</td>
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<td>CMPS 450</td>
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<td>CMPS 453</td>
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<td>CMPS 455</td>
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<td>CMPS 4xx</td>
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<td>STAT 325 or 427</td>
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<td>Elective (CMPS)(^8)</td>
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<td>ENGL 365</td>
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<td>Concentration Electives 7</td>
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<td>STAT 454</td>
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<td>Elective (BHSC)(^2,3)</td>
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<td>Elective (CMCN)(^9)</td>
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<td>Electives (ARTS)(^4)</td>
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<td>Elective (SCI)(^3,6)</td>
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<td>Electives</td>
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<td>Concentration Elective 7</td>
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</table>

\(^1\)This program is accredited by the Computing Sciences Accreditation Board (CSAB/ABET). Students will be allowed to enter Upper Division if they have earned a grade of “C” or better in CMPS 261 and MATH 301. To qualify for graduation, a student must earn a grade of “C” or better in all CMPS, MATH, STAT, and EECE courses which are applied to the degree, as well as all concentration electives.

\(^2\)On the third grade of “W”, “D”, or “F” in any of these courses, the student will not be permitted to continue pursuing a major in Computer Science at the University of Louisiana at Lafayette.

\(^3\)To be chosen from Anthropology, Geography, Economics, Political Science, Psychology, or Sociology. At least 3 hours of behavioral science must be at the 200-level or above.

\(^4\)Selection may depend on concentration.

\(^5\)To be chosen from DANC, MUS, THEA, or VIAR, ARCH or Design.

\(^6\)Any course in ENGL or MODL that focuses on literary texts.

\(^7\)Must include both biological and physical sciences. All three courses must be courses for majors. At least two of these courses must be in a two-semester sequence with labs.

\(^8\)Concentrations: Video Game Design and Development, Cognitive Science, Information Technology, Scientific Computing, and Computer Engineering. A list of courses that satisfy concentration electives is available in the CMPS department.

\(^9\)Must be a course for majors.

CMCN 100, 101, 202, 203, 302, or 310, ENGL 360, THEA 261.
CONCENTRATION AREAS & REQUIREMENTS
2014
Revised: March 2015

Cognitive Science
CMPS 1
CMPS 1
ENGL 351 Linguistics
ELECT 2
ELECT 2

1 Chosen from CMPS 415, 420, 452 or 359/499s that apply to the concentration
2 Chosen from PSYC 313, 315, 330, 340, 360; ENGL 425, 452, 458; PHIL 342, 349, 361, 448; INFX 301
Note: This concentration requires PSYC 110 as a BHSC elective.

Computer Engineering
MATH 302/350 Calculus III / Differential Equations
EECE 240 Digital Systems
EECE 355 Circuits and Signals
EECE 1
EECE 1

1 Chosen from EECE 233, 335, 340, 413
Note: This concentration requires PHYS 201/207, 202/208, 215 and 216 to satisfy the physical sciences.

Information Technology
CMPS 353 Principles of File Organization and Processing
CMPS 1
ACCT 201 Principles of Accounting I
ELECT 2
ELECT 2

1 If CMPS 353 not offered, choose from INFX 240, 320, 450, 451
1 Chosen from CMPS 353, 360, 420, 452, 359/499s that apply to concentration, or INFX 240, 320, 450, 451
2 Choose from ACCT 202, MGMT 320, 350, 390, BLAW 310, 415, 425, ECON 300, 320, 330, BSAT 303

Scientific Computing
CMPS 352* Scientific Computing
CMPS 415 Graphics
MATH 302 Calculus III
MATH 350 Differential Equations
MATH 1

1 If CMPS 352 not offered, choose from CMPS 3xx/4xx or MATH 3xx/4xx that applies to concentration.
1 Chosen from MATH 435, 440, 450, 455, 475, 481, 483, 487, 491, 493, 495

Video Game Design & Development
CMPS 327 Introduction to Video Game Design & Development
CMPS 427 Video Game Design & Development
Choose 3 from the following: CMPS 359 (Gaming Topic), 415, 420, 452, 499
CMCN 365
ENGL 223, 325, 327
THEA 251, 300
VIAR 235, 335, 365, 366, 465
Summary of Computer Science Requirements
Computer Science Core and Pre-requisite Structure

MATH 109
Pre-Calculus Algebra
(CMPS 150 Pre-requisite)

MATH 110
Pre-Calculus Trig
(CMPS 260 Pre-requisite)

MATH 270
Calculus I
(CMPS 340 & 341 Pre-requisite)

CMPS 150
Introduction to Computer Science

CMPS 260
Introduction to Data Structures

CMPS 261
Advanced Data Structures

CMPS 280
Programming Languages

CMPS 310
Computers in Society

CMPS 327
Introduction to Video Game Design and Development

CMPS 331
Computer Organization and Assembly Language Programming

CMPS 341
Foundations of Computer Science

CMPS 340
Design & Analysis of Algorithms

CMPS 350
Operating System Theory

CMPS 351
Computer Organization and Assembly Language Programming

CMPS 352
Scientific Computing

CMPS 353
Principles of File Organization

CMPS 358
C#/.Net Software Development

CMPS 359
Topics in Software Development (1 - 3 Credits)

CMPS 360
Programming in Java

CMPS 415
Computer Graphics

CMPS 420
Artificial Intelligence

CMPS 427
Video Game Design and Development

CMPS 430
Computer Architecture

CMPS 440
Theory of Computation

CMPS 451
Compiler Construction

CMPS 452
Human-Computer Interface Design

CMPS 490
Senior Project

CMPS 497/498
Special Projects

CMPS 499
Special Topics in Computer Science
SCIENCE ELECTIVES

Physical Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 107</td>
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<td>CHEM 108</td>
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<tr>
<td>CHEM 115</td>
<td>2 hrs</td>
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<tr>
<td>GEOL 105/106</td>
<td>3/3 hrs</td>
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<tr>
<td>GEOL 107/108</td>
<td>1/1 hr</td>
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<tr>
<td>PHYS 201/202</td>
<td>4/4 hrs</td>
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<tr>
<td>GEOL 111</td>
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<tr>
<td>GEOL 112</td>
<td>4 hrs</td>
</tr>
<tr>
<td>PHYS 207/208</td>
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<td>PHYS 215/216</td>
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Biological Sciences

<table>
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<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 110/111</td>
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<tr>
<td>BIOL 112/113</td>
<td>1/1 hrs</td>
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<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>BIOL 121/122</td>
<td>3/3 hrs</td>
</tr>
<tr>
<td>BIOL 123/113</td>
<td>1/1 hr</td>
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</tbody>
</table>

A student must select one sequence of courses with the respective labs. If the Physical Science sequence is chosen, then the student must select a Biological Science as the third science course, otherwise the student must select a Physical Science. Students must complete a minimum of 12 credit hours of science.

Students in the Electrical Engineering area of concentration must take Physics as the lab sequence and one of the Biology courses.

Notes:
1. CHEM 115 has CHEM 108 as a pre-requisite; this means that Chemistry cannot be taken as a Physical Science if the Biology science sequence was chosen.
2. Students in the Electrical Engineering area of concentration must earn a grade of C or better in PHYS 202 if they choose EECE 335 as one of their concentration electives.
3. If Biology is not chosen for the lab sequence, the lab is not required if the credit hour is not needed to complete 12 credit hours in the sciences.

COMPUTER SCIENCE ELECTIVES

All concentration areas require 9 credit hours of Computer Science electives. Six of these 9 hours of CMPS courses (EECE courses for Computer Engineering Concentration) will satisfy concentration requirements.

NOTES:
Students who wish to enroll for a Special Project (CMPS 497, 498) must have completed CMPS 261, CMPS 341, CMPS 351, and MATH 301, and have an overall GPA of 3.0 or better.

Students who wish to enroll in their Senior Project course (CMPS 490) must have completed 6 hours of 400-level CMPS courses, with a grade of 'C' or better, and permission of instructor.
LITERATURE ELECTIVES

ENGLISH – Any ENGL course that focuses on literary text. Linguistics, vocabulary development, and language courses do not qualify.

ARTS ELECTIVES

DANCE – Any DANC course.
MUSIC – 105 (All Styles), 108 (Jazz), 109 (Broadway), 308 (Fund. of Music),
                          360 (Cajun & Zydeco Music), 362 (Creole & Black Music), 364 (Music of the World)
THEATRE – Any THEA course.
VISUAL ARTS – Any VIAR course.
ARCH 221 (History of Architecture)
DSGN 121 (Survey of Design)

COMMUNICATIONS ELECTIVES

COMMUNICATION
CMCN 100 (Principles of Human Communication), 101 (for international students only)
               202 (Argumentation & Debate), 203 (Honors 100), 212 (Introductory Newswriting)
               302 (Competitive Forensics), 310 (Public Speaking)
   ENGL 360 (Advanced Writing)
   THEA 261 (Acting I)

HISTORY ELECTIVES

HISTORY - All courses except HIST 490

BEHAVIORAL SCIENCES ELECTIVES

ANTHROPOLOGY – Any ANTH course.
ECONOMICS - 201, 202, 300
GEOGRAPHY – Any GEOG course.
POLITICAL SCIENCE –Any POLS course.
PSYCHOLOGY – Any PSYC course.
SOCIOLOGY – Any SOCI course.

At least one of the two BHSC requirements MUST be at the 200-level or above.
NON-CREDIT COURSES

No Computer Science major may receive credit for ANY of the following:

1. ACSK courses
2. ADOS, All courses except ADOS 420
3. BSAT 101, 205, 206, 306, 311, 321
4. BCOM All courses
5. CMPS All courses for non-majors
6. ENGR 101
7. ITEC 101
8. MATH - No course that is a prerequisite to a required course: 92, 100, 105, 107, 140, 143, 117, 201, 206, 210, 217, 250, 317, 470
9. Any KNEA courses beyond 4 credit hours
10. QMET 251, 252, 450
11. STAT 214
12. HONR 110, 210, 310, 410

ENTRANCE INTO UPPER DIVISION

To enter Upper Division, you need to complete 30 hours of non-remedial courses, 3 hours in one of the sciences (BIOL/CHCM/GEOL/PHYS), AND have completed the following courses with a grade of C or better: ENGL 102, MATH 301, CMPS 261

Students must also have an adjusted GPA of 2.0 or higher.

Students must be in Upper Division to enroll in 400-level courses.
**SEMESTER COURSE OFFERINGS**

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<tr>
<th>Course</th>
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<td>CMPS 499*</td>
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*Topics vary by semester
Advising

The Computer Science Department has established an advising structure that is supported by the Computer Science faculty and graduate students.

During the early advising period, you will be assigned to one of the faculty members by your last name. You may sign up with your advisor using the sign-up sheets in the CMPS Department office, Room 222. After the early advising period, students will be advised by either setting up an appointment with their faculty member advisor, or by setting up an appointment with the department's graduate student advisor in Room 222G.

Appointments for Advising

You must make an appointment with your assigned faculty advisor. Please refer to ULink to see who your faculty advisor is. During the early advising period, sign up for an advising appointment using the sign-up sheet in the CMPS Department office, Room 222.

Schedule of Classes

The Schedule of Classes can be accessed online. Select the Current Students Link, then the Schedules of Classes link under the heading Courses and Calendars. Use information found in the schedule of classes to complete a trial schedule before your appointment.

Your advisor will clear your advising hold after you have completed an advising session with him/her.

Advantages of Early Registration

Scheduling is not something that should be done at the last minute. Taking some time to choose your classes wisely will help you graduate on schedule and also improves your performance each semester by distributing the workload of difficult project courses.

Information about Courses and Curriculum

Prerequisite – A prerequisite is an academic requirement which must be satisfied prior to enrolling in a course.

Corequisite – A corequisite is an academic requirement which must be satisfied concurrent with enrolling in a course. A student requesting a course must be currently enrolled in all corequisites listed for that course or must otherwise satisfy the instructor and the head of the department that he/she has had the equivalent preparation.

To obtain information about courses and the curriculum, consult the UL Lafayette catalog, the Computer Science Web Page (http://www.louisiana.edu/Academic/Sciences/CMPS), or this Advising Handout. These sources of information include the curriculum, the prerequisite structure of the computer science core, courses which may be chosen to fulfill the various degree requirements, regular fall and spring course offerings, and courses which do not count towards your degree.