

# COMPUTER SCIENCE †

120 Hours

(revised Fall 2019)

<u>Freshman Year</u>	<u>Credit</u>	<u>Sophomore Year</u>	<u>Credit</u>
UNIV 100	3	CMPS 261 <sup>1</sup>	3
CMPS 150	3	CMPS 310	2
CMPS 260 <sup>1</sup>	3	CMPS 340	3
EECE 140	3	CMPS 341	3
ENGL 101	3	CMPS 351	3
ENGL 102	3	MATH 362	3
MATH 270	4	Elective (LIT) <sup>5</sup>	3
MATH 301	4	Electives (SCI) <sup>3,6</sup>	6
Elective (BHSC) <sup>2,3</sup>	3	Concentration Elective <sup>7</sup>	<u>3</u>
Elective (HIST)	<u>3</u>		29
	32		
<u>Junior Year</u>	<u>Credit</u>	<u>Senior Year</u>	<u>Credit</u>
CMPS 315	3	CMPS 432	3
CMPS 413	3	CMPS 450	3
CMPS 430	3	CMPS 460	3
CMPS 453	3	CMPS 490	3
CMPS 455	3	Elective (CMPS) <sup>8</sup>	3
STAT 325 or 427	3	Concentration Electives <sup>7</sup>	6
ENGL 365	3	Electives (BHSC) <sup>2,3</sup>	3
Electives	3	Elective (ARTS) <sup>4</sup>	3
Elective (SCI) <sup>3,6</sup>	<u>4</u>	Electives	<u>4</u>
	28		31

†This program is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>.

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.

<sup>1</sup> 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.

<sup>2</sup> To be chosen from Anthropology, Criminal Justice, Geography, Economics, Political Science, Psychology, or Sociology. At least 3 hours of behavioral science must be at the 200-level or above.

<sup>3</sup> Selection may depend on concentration.

<sup>4</sup> To be chosen from DANC, MUS, THEA, VIAR or DSGN.

<sup>5</sup> Any course in ENGL or MODL that focuses on literary texts.

<sup>6</sup> Must include both biological and physical sciences. All three courses must be courses intended for science or engineering majors. One of these courses must be taken with its associated lab. Six lecture hours must be in the same discipline.

<sup>7</sup> Concentrations: Video Game Design and Development, Cloud Computing, Scientific Computing, and Computer Engineering. A list of courses that satisfy concentration electives is available in the CMPS office.

<sup>8</sup> Must be a course for majors.

## **CONCENTRATION AREAS & REQUIREMENTS 2019-2020**

### **Computer Engineering**

CMPS 315 Introduction to Cybersecurity  
CMPS 432 Parallel and Distributed Computing  
MATH 302/350 Calculus III or Differential Equations  
Elective<sup>1</sup>  
Elective<sup>1</sup>

<sup>1</sup> Chosen from CMPS 315,497,498,499 EECE 233,240,335,340,355,413,431,434,464 STAT 417,454  
Note: This concentration requires PHYS 201/207, 202/208 for the physical science lectures.

### **Cloud Computing**

CMPS 315 Introduction to Cybersecurity  
CMPS 432 Parallel and Distributed Computing  
Elective<sup>1,2</sup>  
Elective<sup>1,2</sup>  
Elective<sup>1,2</sup>

<sup>1</sup> Chosen from CMPS 353,358,359,360,420,452,497,498,499 INFX 240,320,321,330,412,443,450,451  
<sup>2</sup> Chosen from ACCT 201,BLAW 310,425,BSAT 303,CJUS 401,ECON 300,320,330 MGMT 320,350  
STAT 417,454

NOTE: Students cannot receive credit for both ECON 201 and ECON 300

### **Scientific Computing**

CMPS 315 Introduction to Cybersecurity  
CMPS 432 Parallel and Distributed Computing  
MATH 302 Calculus III  
MATH 350 Differential Equations  
Elective<sup>1,2</sup>

<sup>1</sup> Chosen from CMPS 352,415,497,498,499

<sup>2</sup> Chosen from MATH 435,440,450,455,475,481,483,487,491,493,495 STAT 417,454

### **Video Game Design & Development**

CMPS 327 Introduction to Video Game Design & Development  
CMPS 427 Video Game Design & Development  
CMPS 315 Introduction to Cybersecurity  
CMPS 432 Parallel and Distributed Computing  
Elective<sup>1,2</sup>

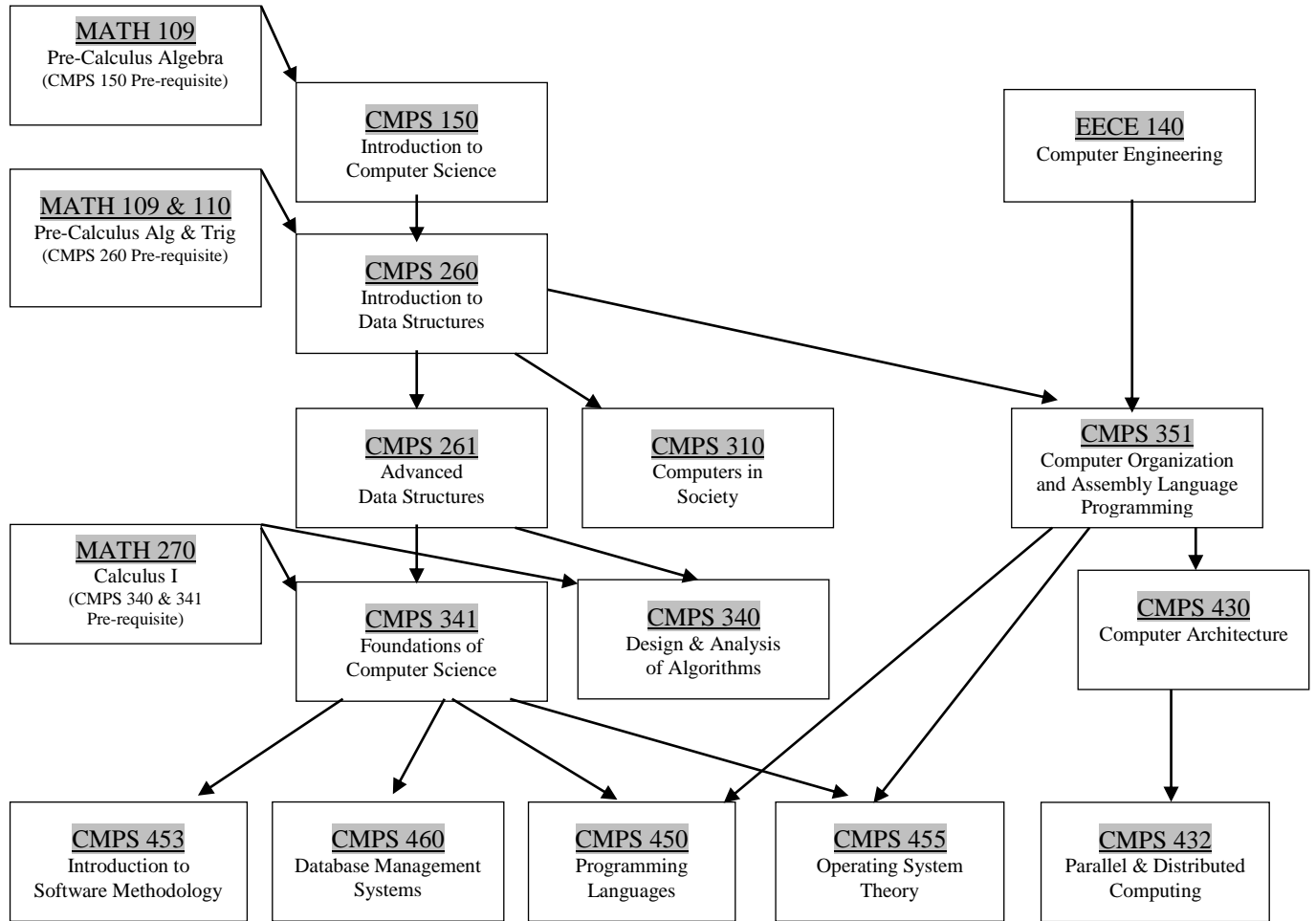
<sup>1</sup> Chosen from CMPS 358,359,360,415,420,452,497,498,499 INFX 210

<sup>2</sup> Chosen from CMCN 365,ENGL 223,325,327,THEA 251,300,VIAR 235,236,335,365,366,465  
STAT 417,454

Note: This concentration requires PHYS 207 (or PHYS 201) as a SCI elective.

## Summary of Computer Science Requirements

### Computer Science Core and Pre-requisite Structure



## Computer Science Electives

<b>CMPS 327</b> Introduction to Video Game Design and Development	<b>CMPS 352</b> Scientific Computing	<b>CMPS 353</b> Principles of File Organization	<b>CMPS 358</b> C# / .Net Software Development	<b>CMPS 359</b> Topics in Software Development (1 - 3 Credits)
<b>CMPS 360</b> Programming in Java	<b>CMPS 415</b> Computer Graphics	<b>CMPS 420</b> Artificial Intelligence	<b>CMPS 427</b> Video Game Design and Development	<b>CMPS 440</b> Theory of Computation
<b>CMPS 451</b> Compiler Construction	<b>CMPS 452</b> Human-Computer Interface Design	<b>CMPS 497/498</b> Special Projects	<b>CMPS 499</b> Special Topics in Computer Science	

## SCIENCE ELECTIVES

### *Physical Sciences Lectures*

CHEM 107	3 hrs	
CHEM 108	3 hrs	
GEOL 105	3 hrs	
GEOL 106	3 hrs	
PHYS 207	3 hrs	
PHYS 208	3 hrs	
PHYS 201	4 hrs	**
PHYS 202	4 hrs	**

### *Biological Sciences Lectures*

BIOL 121	3 hrs	
BIOL 122	3 hrs	
BIOL 110	3 hrs	**
BIOL 111	3 hrs	**

### *Physical Sciences Labs*

CHEM 115	2 hrs	(pre-requisite is CHEM 108)
GEOL 107	1 hr	
GEOL 108	1 hr	
PHYS 215	1 hr	

### *Biological Sciences Labs*

BIOL 123	1 hr	
BIOL 112	1 hr	
BIOL 113	1 hr	

\*\* these science lectures are those required by PHYS and BIOL majors

A student must select 9 hours of lecture, where at least one biological science and one physical science are included in the 9 hours. A student must also select one respective lab. Six of the nine lecture hours must be in the same science.

Students in the Computer Engineering concentration must take PHYS 207/208 for 6 of their 9 lecture hours. They are allowed, however, to take PHYS 201/202, which is the calculus-based sequence.

Note:

Students in the Computer Engineering concentration must earn a grade of C or better in PHYS 202 if they choose EECE 335 as one of their concentration electives.

### **NOTES:**

Students who wish to enroll for a Special Project (CMPS 497 or 498) must have completed CMPS 341 and CMPS 351 and have an overall GPA of 2.5 or better.

#### NOTE:

If a student takes GEOL 111, this is a GEOL lecture and lab course in one. It is four (4) credit hours.

It is equivalent to GEOL 105+7

## **LITERATURE ELECTIVES**

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

## **ARTS ELECTIVES**

DANCE – DANC 101, 102, 113, 114

MUSIC – 104 (American Pop) 105 (All Styles), 108 (Jazz), 109 (Broadway),  
306 (Music for the Teacher)  
321/322 (Voice I/II), 323/324 (Piano Class), 325/326 (Guitar Class),  
360 (Cajun & Zydeco Music), 364 (Music of the World)

THEATRE – THEA 161, 261

VISUAL ARTS – VIAR 120, 121, 122

DSGN 121 (Survey of Design)

## **HISTORY ELECTIVES**

HISTORY – All courses except HIST 490

PHILOSOPHY – PHIL 101, 321, 322

## **BEHAVIORAL SCIENCES ELECTIVES**

ANTHROPOLOGY – Any ANTH course, e.g., 100, 201, 202, 203

CRIMINAL JUSTICE – Any CJUS course, e.g., 101, 203, 205

ECONOMICS – 201, 202, 300

GEOGRAPHY – Any GEOG course, e.g., 103, 104, 380

POLITICAL SCIENCE – Any POLS course, e.g., 110, 220, 360, 370

PSYCHOLOGY – Any PSYC course, e.g., 110, 220, 255, 311, 312, 370

SOCIOLOGY – Any SOCI course, e.g., 100, 241

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 (or INFX 205), 206, 306, 311, 321
4. BCOM All courses
5. INFX 101
6. ENGR 101
7. ITEC 100 & ITEC 101
8. MATH - No course that is a prerequisite to a required course: 92, 100, 103/104, 105, 107, 140, 143, 117, 201, 206, 210, 217, 250, 317, 470
9. Any KNEA courses beyond 4 credit hours
10. Any AMUS courses beyond 4 credit hours
11. QMET 251, 252, 450
12. STAT 214
13. HONR 110, 210, 300, 310, 410

## ***SEMESTER COURSE OFFERINGS***

<b>Course</b>	<b>FALL</b>	<b>SPRING</b>
CMPS 150	√	√
CMPS 207	√	√
CMPS 260	√	√
CMPS 261	√	√
CMPS 310	√	√
CMPS 327	√	
CMPS 340	√	√
CMPS 341	√	√
CMPS 351	√	√
CMPS 358/359/360	√ (distributed odd/even years)	√ (distributed odd/even years)
CMPS 413	√	√
CMPS 415	√	
CMPS 420		√ (when possible)
CMPS 427		√
CMPS 430	√	√
CMPS 432	√	√
CMPS 440		√ (when possible)
CMPS 450	√	√
CMPS 451		√ (when possible)
CMPS 452		√ (when possible)
CMPS 453	√	√
CMPS 455	√	√
CMPS 460	√	√
CMPS 490	√	√
CMPS 499*	√	√

**\*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. Use the ULink/Banner system or consult the Registrar's Web Page (<https://registrar.louisiana.edu>). Select *Registration*, then *Schedule of Classes*.

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 (<https://computing.louisiana.edu/computer-sciences>), 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.