

Computer Science (BS)

Degree Requirements

General Education Requirements (62 Hours)

Area I - Written Composition (2 Courses, 6 Hours)

- A. 3 hours: EH 101
- B. 3 hours: EH 102

Area II - Humanities & Fine Arts (4 Courses, 12 Hours)

- A. 3 hours: CA 110
- B. 3 hours from: EH 215, EH 216, EH 225, EH 226, EH 235, EH 236
- C. 3 hours from: ARH 100, ARH 103, ARH 123, ARS 101, DRA 110, MUL 101
- D. 3 hours from: AFR 101, ARH 100, ARH 103, ARH 123, ARH 203, ARS 101, CLA 110, DRA 110, EH 215, EH 216, EH 225, EH 226, EH 235, EH 236, LG 101, LG 102, LG 111, LG 112, LG 121, LG 122, LG 131, LG 132, LG 141, LG 142, LG 151, LG 152, LG 153, LG 171, LG 172, LG 173, LG 201, LG 202, LG 211, LG 212, LG 213, LG 221, LG 222, LG 231, LG 232, LG 234, LG 241, LG 242, LG 251, LG 252, LG 271, LG 272, LG 273, LGS 101, LGS 102, LGS 106, LGS 107, LGS 110, LGS 111, LGS 171, LGS 172, LGS 201, LGS 202, LGS 206, LGS 207, LGS 210, LGS 211, MUL 101, PHL 110, PHL 120, PHL 121, PHL 131, PHL 231, PHL 240, REL 100, REL 200, REL 201

Area III – Natural Sciences & Mathematics (3 Courses & Labs, 12 Hours)

- A. 4 hours from: MA 125
- B. 8 hours from: (BLY 121 / BLY 121L & BLY 122 / BLY 122L), (CH 131 / CH 131L & CH 132 / CH 132L), (GY 111 / GY 111L & GY 112 / GY 112L), (PH 201 / PH 201L & PH 202 / PH 202L)

Area IV – History, Social & Behavioral Sciences (4 Courses, 12 Hours)

- A. 3 hours from: HY 101, HY 102, HY 135, HY 136
- B. 9 hours from: AN 100, AN 101, CA 100, CA 211, CJ 105, ECO 215, ECO 216, GEO 114, GEO 115, GS 101, HY 101, HY 102, HY 135, HY 136, IS 100, IST 201, NAS 101, PSC 130, PSY 120, PSY 250, SY 109, SY 112

Area V (6 Courses, 20 Hours)

Additional Math Required:

- A.10 hours: MA 126, MA 267, ST 315

B. 6 elective hours from: MA 227 or MA 237 or MA 238 or MA 311 or MA 316 or MA 320 or MA 321 or MA 332 or MA 334 or MA 335 or MA 354 or MA 367 or MA 410 or MA 413 or MA 414 or MA 434 or MA 436 or MA 437 or MA 451 or MA 458 or MA 467 or MA 481 or MA 490

Additional Science Required (note: cannot be lower level course from same sequence taken in Area III):

A. 4 hours from: (BLY 121 / BLY 121L) or (BLY 122 / BLY 122L) or (CH 131 / CH 131L) or (CH 132 / CH 132L) or (GEO 101 / GEO 101L) or (GEO 102 / GEO 102L) or (GY 111 / GY 111L) or (GY 112 / GY 112L) or (MAS 134 / MAS 134L) or (PH 101 / PH 101L) or (PH 201 / PH 201L) or (PH 202 / PH 202L)

Major Requirements (62 Hours)

Computer Science

- A. 50 hours: CA 275, EH 372, CIS 101, CSC 120, CSC 228, CSC 231, CIS 300, CSC 311, CSC 320, CSC 322, CSC 331, CSC 332, CSC 333, CSC 399, CSC 440, CSC 434, CIS 497, CIS 498
- B. 12 elective hours from: CSC 410, CSC 412, CSC 413, CSC 416, CSC 417, CSC 418, CSC 426, CSC 428, CSC 433, CSC 450, CSC 457, CSC 460, CSC 485, CSC 490, CIS 324 or CSC 324, CIS 494, ISC 472

Minor Requirements (0 Hours)

A minor is not required for this degree program

Notes:

Students must complete a 6-credit hour sequence either in literature (Area II – EH 215 & EH 216, EH 225 & EH 226, or EH 235 & EH 236) or history (Area IV – HY 101 & HY 102 or HY 135 & HY 136)

Students must complete a 8-hour sequence in natural science (Area III – (BLY 121 / BLY 121L and BLY 122 / BLY 122L), or (CH 131 / CH 131L and CH 132 & CH 132L), or (GY 111 / GY 111L and GY 112 / GY 112L), or (PH 201 / PH 201L and PH 202 / PH 202L)

All undergraduates must complete two designated writing credit (W) courses, at least one of which must be in the student's major.

Credit for both CIS 324 & CSC 324 is not allowed.

Additional Information

Graduation Plan

Computer Science (BS) : (124 Total Hours)

First Year - Fall Semester

Course ID	Course Description	Hours
CSC 120	Problem Solving and Programming Concepts	4
CIS 101	Freshman Seminar CIS	2

CA 275	Small Group Discussion	3
MA 125	Calculus I	4
EH 101	English Composition I	3
Fine Arts/Hum Elective	Area II	3
Total Hours		19

First Year - Spring Semester

Course ID	Course Description	Hours
CSC 231	Introduction to Data Structures and Algorithms	4
CSC 228	Digital Logic and Comp Architecture	3
CA 110	Public Speaking	3
MA 126	Calculus II	4
EH 102	English Composition II	3
Total Hours		17

Second Year - Fall Semester

Course ID	Course Description	Hours
CSC 331	Software Engineering Principles (W)	3
CSC 311	Networking and Communications	3
MA 267	Discrete Math Structures	3
Nat Sci/Lab	Area III, B	4
Humanities/Hist	Area II or Area IV	3
Total Hours		16

Second Year - Spring Semester

Course ID	Course Description	Hours
CSC 320	Computer Organization and Architecture	3
CSC 332	Advanced Data Structures and Algorithms	3
CSC 322	Operating Systems	3
Math Elective	Area III, A	3
Nat Sci/Lab	Area III, B	4
Total Hours		16

Third Year - Fall Semester

Course ID	Course Description	Hours
CIS 300	Information Technology in Society	1
CSC 333	Program Language Theory	3
CSC 399	Concurrency and Distributed Computing	3
Lit/Hist	Area II or Area IV	3
Nat Sci/Lab	Area III, B	4
Total Hours		14

Third Year - Spring Semester

Course ID	Course Description	Hours
CSC 434	Formal Language and Automata Theory	3
CS Elective	Computer Science Elective	3
Social Science	Area IV, B	3
Math Elective	Area III, A	3
Fine Arts/Hum	Area II Elective	3
Total Hours		15

Fourth Year - Fall Semester

Course ID	Course Description	Hours
EH 372	Technical Writing (W)	3
CSC 440	Secure Software Engineering	3
CS Elective	Computer Science Elective	3
CS Elective	Computer Science Elective	3
Social Science	Area IV, B	3
Total Hours		15

Fourth Year - Spring Semester

Course ID	Course Description	Hours
CIS 497	Senior Project (W)	3
CIS 498	Senior Seminar	0
ST 315	Applied Probability-Statistics	3
CS Elective	Computer Science Elective	3
Lit/Hist	Area II or Area IV	3
Total Hours		12

Notes

Department Information

Department of Computer Science Staff

Professor & Computer Science Chair

Dr. Todd Aniel

Department of Computer Science website
<https://www.southalabama.edu/colleges/soc/computerscience>

Computer Science is a discipline that involves the understanding and design of computers and computational processes. In its most general form, it is concerned with the understanding of information transfer and transformation. Particular interest is placed on making processes efficient and endowing them with some form of intelligence. The discipline includes both advancing the fundamental understanding of algorithms and information processes in general, as well as the practical design of efficient, reliable software to meet given specifications. Courses offer students the opportunity to explore current trends in computing such as: cyber security, artificial intelligence, machine learning, big data, video game development, computer graphics and robotics.