

The Computer Science Introductory Sequence

Revisions effective Spring 2015

Effective Spring 2015, the Computer Science program will be changing its introductory course sequence. The new sequence is designed to improve student success and understanding of the discipline. We are replacing CS 150, 160, 250, 260, 315, 350, 351, and 360 with a set of 4 four-hour courses (CS 100, 101, 200 and 201).

The new curriculum will be introduced over the next three semesters, starting with an initial offering of CS 100 in Spring 2015. The introduction times for new courses, as well as the last offering for existing courses, is below.

The Existing Curriculum (18 hours)

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|------------|---------------------------------|---------|--------------------------|
| • CS 121 | The Discipline of Computing | 1 hour | |
| • CS 150 | Programming I | 2 hours | Last offered Fall 2014 |
| • CS 160 | Computer Science Concepts | 1 hour | Last offered Fall 2014 |
| • CS 250 | Programming II | 2 hours | Last offered Spring 2015 |
| • CS 260 | Foundations of Computer Science | 3 hours | Last offered Spring 2015 |
| • CS 315 | Software Engineering | 3 hours | Last offered Fall 2015 |
| • CS 350/1 | Programming III (Java/C++) | 2 hours | Last offered Fall 2015 |
| • CS 360 | Data Structures & Algorithms | 4 hours | Last offered Fall 2015 |

The Revised Curriculum (17 hours)

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|------------------------------------|---------|--------|------------------------------|
| • CS 121 (Discipline of Computing) | 1 hour | | |
| • Computer Science I | 4 hours | CS 100 | Initial offering Spring 2015 |
| • Computer Science II | 4 hours | CS 101 | Initial offering Fall 2015 |
| • Software Engineering | 4 hours | CS 200 | Initial offering Spring 2016 |
| • Data Structures | 4 hours | CS 201 | Initial offering Spring 2016 |

Details on the proposed courses

<u>Computer Science I</u>	<u>Computer Science II</u>	<u>Software Engineering</u>	<u>Data Structures</u>
<ul style="list-style-type: none"> • Literals, Variables • Sequence / Selection / Iteration • Functions • Recursion • Arrays & Lists (struct) 	<ul style="list-style-type: none"> • Introduce O-O (classes) • Basic data structures • Stacks & Queues • Lists & Arrays (more) • Trees • Searching & Sorting 	<ul style="list-style-type: none"> • Existing 315 material • Inheritance • Polymorphism • IDEs • GUI interfaces • Use of Libraries 	<ul style="list-style-type: none"> • Advanced data structures • Order notation • Self-balancing trees, Tries • Hashing • Graph algorithms • Other basic algorithms

The Minor in Computer Science

- For students who start at Alabama in Spring 2015 or after, a minor in Computer Science requires:
 - CS 100, CS 101, CS 200, CS 201, and Math 301