

Checklist for BS in Software Development

Required COMP courses:

- 1500-1510. PROGRAMMING I and II (3,3) Fall, Spring or
- 1700. INTRODUCTION TO SOFTWARE DEVELOPMENT. (5) Fall, Spring
- 2450. DATA STRUCTURES. (3) Fall, Spring
- 2500. WEB DEVELOPMENT I. (3) Fall, Spring
- 2680. COMPUTER ARCHITECTURE AND ASSEMBLER PROGRAMMING. (3) Fall, Spring
- 3010. SOFTWARE ENGINEERING. (3) Fall, Spring
- 3100. OPERATING SYSTEMS CONCEPTS. (3) Fall
- 3110. DATA COMMUNICATIONS AND NETWORKING. (3) Spring
- 3360. DATABASE CONCEPTS AND APPLICATIONS. (3) Spring
- 3450. OBJECT-ORIENTED PROGRAMMING. (3) Fall, Spring
- 3490. APPLIED ALGORITHMS. (3) Fall
- 4310. WEB DEVELOPMENT II. (3) Spring
- 4390. COMPUTING SEMINAR. (1) Fall, Spring
- 4400. CS SOFTWARE DEVELOPMENT PROJECT. (3) Spring
- 4450. GRAPHICAL USER INTERFACE PROGRAMMING. (3) Fall
- Math 1330, 2300, or 2350. COLLEGE ALGEBRA, PRE-CALC, or CALCULUS I. (3-5). Fall, Spring

Five of these elective courses must be chosen:

Computing:

- 3150. ETHICAL HACKING. (3) Spring
- 3280. NUMERICAL METHODS. (3) Spring, even years.
- 3350. FILE STRUCTURES AND ACCESS METHODS. (3) Fall, odd years
- 3670. COOPERATIVE EDUCATION. (3) By arrangement with department chair
- 4250. PARALLEL PROGRAMMING. (3) Spring, odd years
- 4299. MACHINE LEARNING. (3) Spring
- 4300. ARTIFICIAL INTELLIGENCE. (3) Fall, even years
- 4500. INDEPENDENT STUDY. (1-3) Offered by special arrangement.
- 4750. SELECTED TOPICS. (3) Offered on demand. **May be repeated as content varies.**

Math:

- 2350. CALCULUS I (5) Fall, Spring. **May not be used here if used in core above.**
- 3530. DISCRETE MATH (3) Fall, Spring.

Liberal Arts courses:

See Liberal Arts Requirements at <https://catalog.harding.edu/>

- Minimum of 45 upper level credits (3000 and above)
- Minimum of 128 credits total needed for graduation

Summary of hours for the B.S. in Software Development, by category:

- Major Core Courses: 42-43 credits of CS and 3-5 of Math for a total of 45-48 credits
- Major Elective Courses: 9-15 credits of CS and 0-8 of Math for a total of 15-17 credits
- Total for major is 60-65 credits.
- Total for Liberal Arts is 50 credits (Normal Liberal Arts minus Math, which is built into the major)
- Remaining Bible is 8 credits (not included in normal Liberal Arts)
- Electives: 5 to 10 credits, depending on choices made in selection of major courses.
- Total: 128 credits