# Iowa Department of EducationComputer Science Endorsement Worksheet

**Endorsement 277 or 278 Computer Science. K-8 or 5-12. Applicants will hold a valid Iowa teaching license with at least one additional teaching endorsement.**

**Completion of 12 semester hours in computer science to include:**

(1) Data representation and abstraction to include primitive data types, static and dynamic data structures, and data types and stores.

| **Course #** | **Course Title** | **Institution** | **Semester Hours** | **Year Completed** |
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(2) Designing, developing, testing and refining algorithms to include proficiency in two or more programming paradigms.

| **Course #** | **Course Title** | **Institution** | **Semester Hours** | **Year Completed** |
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(3) Systems and networks to include operating systems, networks, mobile devices, and machine-level data representation.

| **Course #** | **Course Title** | **Institution** | **Semester Hours** | **Year Completed** |
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A computer science methods course to include the following:

(1) Curriculum development including recognizing and defining real-world computational problems; computing concepts and constructs; developing and using abstractions; creating, testing, and refining computational artifacts; and problem-solving strategies in computer science.

(2) Project-based methodologies that support active and authentic learning, fostering an inclusive computing culture, collaborative groupings, and opportunities for creative and innovative thinking.

(3) Communication about computing including multiple forms of media.

(4) Digital citizenship including the social, legal, ethical, safe and effective use of computer hardware, software, peripherals, and networks

| **Course #** | **Course Title** | **Institution** | **Semester Hours** | **Year Completed** |
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c. Computer science specialist. If the coursework requirements in this rule are met and the applicant achieves a minimum of 24 semester hours of computer science content, a computer science specialist endorsement will be granted and the additional teaching endorsement will not be required.

21.3(1) Adding an endorsement. To add an endorsement to an existing license, the applicant will follow one of these options:

a. Option 1. Receive the Iowa education institution’s recommendation that the current approved program requirements or state minimum requirements for the endorsement have been met.

b. Option 2. Apply for a review of transcripts, out-of-state licensure, or approved assessment score reports by the board of educational examiners’ staff to determine whether Iowa requirements have been met. Applicants will have achieved a C- grade or higher in the courses that will be considered for an endorsement. The methods course can be waived if the practitioner holds an endorsement in the same content area at a different level and teaches in the new content area successfully while holding a Class B license.