

Table 2: Comparison of Liberal Arts College CS Requirements

School	CS1	DS	CO	PL	OS	SD	AA	TC	AI	DM	Math	Cap	E	N
Bowdoin	R	R			R ²		R	R	R				5	10
Carleton	R	R	R	R		R	R	R		R	R	R	2	12
Colby	R	R	R	R			R ¹	R ¹			R	R	4	11
ConnColl	R	R	R		R ²		R			R		R	5	13
Grinnell	R	R	R ³		R ³	R	R	R		R	R		1	10
Hamilton	R	R	R	R			R			R		R	4	11
Middlebury	R	R	R	R ⁴	R ⁴	R ⁴	R	R	R ⁴	R		R	4	11
Mt Holyoke	R ⁵	R	R		R		R			R			3	10
Smith	R	R	R		⁶	⁶	⁶	R		R	R	R	4 ⁶	11
Union	R	R	R	⁸	⁸	R	R	⁸		R	R	R	5 ⁸	13 ⁷
Vassar	R	R	R	R	R	R	R	R		R	R		2	13
Williams	R	R	R	R			R	R		R	R		2	10

¹ Algorithms or Theory

² OS is one option for satisfying a Systems requirement

³ One of Computer Organization or Operating Systems

⁴ Two out of programming languages, operating systems, software development, or AI

⁵ Two semester introductory sequence

⁶ Electives must include one theory, one programming, and one systems course.

⁷ BS degree, total course count includes only CS and Math courses

⁸ Electives must include one theory and one systems.

1.4 Comparison to Peer Institutions

As noted above, our curriculum largely follows the LACS design, as do most other computer science programs at small liberal arts colleges. As a comparison group, we picked eleven other small colleges: Bowdoin, Carleton, Connecticut College, Grinnell, Hamilton, Middlebury, Mt. Holyoke, Smith, Union, Vassar, and Williams. All offer a B.A. in CS, with the exception of Union, which offers a B.S. degree.

We examined the major requirements for each institution, as posted on the department web site, and developed a comparative chart, shown in table 2. The table shows which courses are required, how many electives a student can choose, whether discrete math is required, whether there is a different or additional math requirement, and whether the department has a capstone requirement. Finally, the table shows the total number of math and CS courses required to complete the major. The courses break down into the following: Introductory Computing/Programming [CS1], Data Structures and Algorithms [DS], Computer Organization or Architecture [CO], Programming Languages [PL], Operating Systems [OS], Software Development [SD], Analysis of Algorithms [AA], Theory of Computing [TC], Artificial Intelligence [AI], Discrete Math [DM], other math course requirements [MATH], an explicit capstone experience [Cap]. The final two columns are the number of electives [E] and the total number of CS and math courses required for the major [N].