# Appendices

## Appendix A: XML Documentation

This document describes an XML file with data specific to the departments of Mathematics and Computer Science. The data is in the following file. The files were updated on February 19, 2024 to follow the recent changes in courses.

**course\_data.xml** describes the following:

* the requirements for completing the BSCS (as of Spring 2024);
* the rotation of courses for CS;
* the prerequisites for each course, with well-defined semantics;
* the schedule of courses;
* the credit amount obtained from the course; and
* prerequisites for the courses.

Maintenance should be conducted at least once a year (Fall) and/or any time rotation schedule changes.

**XML Schema: course\_data.xsd**

**XML: course\_data.xml**

**XML Structure:**

<CoreCourses>  
 <course>  
 <subject> </subject>  
 <course\_number> </course\_number>  
 <course\_name> </course\_name>

<credit> </credit>  
 <rotation\_term>  
 <term> </term>  
 <time\_code></time\_code>  
 </rotation\_term>

<course\_description></course\_description>

<prerequisite>

<or\_choice>

<and\_required></and\_required>

</or\_choice>

<additional\_preq></additional\_preq>

</prerequisite >

<paired></paired>  
 </course>  
 </CoreCourses>

<Electives>  
 ## Same as CoreCourses  
 </Electives>

<MathandStatistcs>  
 ## Same as CoreCourses  
 </MathandStatistcs>

<OtherCourses>  
 ## Same as CoreCourses  
 </OtherCourses>

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| --- | --- | --- |
| **XML tags** | **Description** | **Expected Value** |
| **<CoreCourses>** | Root tag for Computer Science Core Courses only. |  |
| **<Electives>** | Represents information about electives. |  |
| **<MathandStatistics>** | Math electives |  |
| **<OtherCourses>** | Other than MATH or CMP SCI. |  |
| **<course>** | A sequence which can occur infinite times |  |
| **<subject>** | Represents course type. Course can be only one of two values CMP SCI, MATH, or ENGLISH. | CMP SCI, MATH, or ENGLISH |
| **<course\_number>** | Represents course number. | 4-digit Integer number. |
| **<course\_name>** | Name of the course. | English text. |
| **<rotation\_term>** | Shows rotations for two semesters. This tag can occur only three times for each course (Fall, Spring, or Summer). This is a root tag and has only 2 sub tags: term and time\_code. |  |
| **<time\_code>** | Represents if the course is Evening/Day Course. This is a list of strings and should be separated by delimiter Comma(,) if it is offered in both Day & Evening.  This can be empty, if that course is not offered that semester. | D stands for Day, E stands for Evening, O stands for Online, and H stands for Hybrid. |
| **<term>** | Represents the term. It can be Fall, Spring, or Summer | Fall or Spring or Summer |
| **<credit>** | Represents credit hours in course. | 1-digit Integer number. |
| **<course\_description>** | Describes the course. | English text. |
| **<prerequisite>** | Describes course prerequisites.  Can occur minimum 0 times.  This means, this tag can be left out without adding if it cannot be added for that course. |  |
| **<or\_choice>** | Contains set of required pre-requisites.  Can occur minimum 0 times.  This means, this tag can be left out without adding if it cannot be added for that course. |  |

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| **<and\_required>** | Represents pre-requisites which must be satisfied.  Pre-reqs are represented by their subject followed by course numbers in Disjunctive normal form.  Must occur at least once, & maximum is infinite. | Examples:  1) Prereq: CMP SCI A  *There is only one course, and it should be satisfied.*  <or\_choice>  <and\_required>  CMP SCI A  </and\_required>  </or\_choice>  2)Prereq:  CMP SCI A, MATH B  *Both CMP SCI A & MATH B are required.*  <or\_choice>  <and\_required>  CMP SCI A  </and\_required>  <and\_required>  MATH B  </and\_required>  </or\_choice>  3)Prereq:  CMP SCI A or CMP SCI B  *There is a choice between CMP SCI A & CMP SCI B.*  <or\_choice>  <and\_required>  CMP SCI A  </and\_required>  </or\_choice>  <or\_choice>  <and\_required>  CMP SCI B  </and\_required>  </or\_choice>  4) Prereq: CMP SCI A and (MATH B or MATH C)  <or\_choice>  <and\_required>  CMP SCI A  </and\_required>  <and\_required>  MATH B  </and\_required>  </or\_choice>  <or\_choice>  <and\_required>  CMP SCI A  </and\_required>  <and\_required>  MATH C  </and\_required>  </or\_choice> |
| **<additional\_preq>** | Any additional pre-reqs.  Can occur minimum 0 times.  This means, this tag can be left out without adding if it cannot be added for that course. | Examples:  Completion of comprehensive exams. |
| **<paired>** | Tells which course cannot be taken for credit with this course. Typically this is a 4xxx/5xxx pairing.  Can occur minimum 0 times. This means, this tag can be left out without adding if it cannot be added for that course. | Examples:  <paired>CMP SCI 5012</paired> |