

## Associate in Sciences - Transfer (AS-T)

# Computer Science

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual courses in areas of interest to deepen knowledge and understanding.

## Degree Requirements

- **Communications:**  
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**  
10 credits – MATH& 151\* Calculus I AND MATH& 152\* Calculus II.
- **Humanities / Social Sciences:**  
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science in a different discipline.
- **Lab Based Science Course:**  
5 credits – such as biology, chemistry, etc. Confer with advisor and the transfer university for acceptable courses.
- **Diversity:**  
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**  
At least 5 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

## Pre-Major Requirements

|            |                               |   |
|------------|-------------------------------|---|
| CS 170     | Computer Programming          | 5 |
| CS 270     | Data Structures I             | 5 |
| CS 275     | Object-Orientated Prg in Java | 5 |
| CS 280     | Advanced Data Structures      | 5 |
| MATH& 153* | Calculus III                  | 5 |
| MATH 215   | Discrete Structures           | 5 |
| MATH 220   | Linear Algebra                | 5 |
| PHYS& 221* | Engr Physics I w/Lab          | 5 |
| PHYS& 222* | Engr Physics II w/Lab         | 5 |
| PHYS& 223* | Engr Physics III w/Lab        | 5 |

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at [lowercolumbia.edu/catalog](http://lowercolumbia.edu/catalog).

\*It is recommended that sequence courses be completed at one institution.

*Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. Universities may expect certain minimal grades in various courses in order to certify into their computer science programs. A course cannot be credited toward more than one distribution or skill area.*

## Students completing this program should acquire the following skills and abilities:

- Apply mathematics to the solution of problems in computer science.
- Apply physics to the solution of problems in computer science.
- Discover, develop, and utilize algorithms suitable for the design of computer programs.

- Design and implement computer programs using various programming languages.

**Revised November 2017**

## Planner

The distribution lists are in the LCC Catalog. If you are online, click on the links below:

### Diversity Course List

#### Distribution List

Advisors: Don Derkacht, (360) 442-2723, [dderkacht@lowercolumbia.edu](mailto:dderkacht@lowercolumbia.edu); David Rosi, (360) 442-2717, [drosi@lowercolumbia.edu](mailto:drosi@lowercolumbia.edu)

| Fall Quarter |               |           | Winter Quarter |               |           | Spring Quarter |                                       |           | Summer Quarter |               |     |
|--------------|---------------|-----------|----------------|---------------|-----------|----------------|---------------------------------------|-----------|----------------|---------------|-----|
| √            | Courses       | Crs       | √              | Courses       | Crs       | √              | Courses                               | Crs       | √              | Courses       | Crs |
|              | CS 170        | 5         |                | CS 275        | 5         |                | Humanities<br>OR<br>Social<br>Science | 5         |                |               |     |
|              | ENGL&<br>101  | 5         |                | MATH<br>215   | 5         |                | MATH&<br>153                          | 5         |                |               |     |
|              | MATH&<br>151  | 5         |                | MATH&<br>152  | 5         |                | Lab<br>Based<br>Science<br>Course     | 5         |                |               |     |
|              |               |           |                |               |           |                |                                       |           |                |               |     |
|              |               |           |                |               |           |                |                                       |           |                |               |     |
|              | <b>Total:</b> | <b>15</b> |                | <b>Total:</b> | <b>15</b> |                | <b>Total:</b>                         | <b>15</b> |                | <b>Total:</b> |     |

| Fall Quarter |                                       |           | Winter Quarter |  |           | Spring Quarter |               |           | Summer Quarter |               |     |
|--------------|---------------------------------------|-----------|----------------|--|-----------|----------------|---------------|-----------|----------------|---------------|-----|
| √            | Courses                               | Crs       | √              | Courses                                  | Crs       | √              | Courses       | Crs       | √              | Courses       | Crs |
|              | CS 270                                | 5         |                | PHYS&<br>222                             | 5         |                | CS 280        | 5         |                |               |     |
|              | PHYS&<br>221                          | 5         |                | Humanities<br>OR<br>Social<br>Science    | 5         |                | MATH<br>220   | 5         |                |               |     |
|              | Humanities<br>OR<br>Social<br>Science | 5         |                | Advisor<br>Approved<br>(e.g., IT<br>249) | 5         |                | PHYS&<br>223  | 5         |                |               |     |
|              |                                       |           |                |  |           |                |               |           |                |               |     |
|              |                                       |           |                |  |           |                |               |           |                |               |     |
|              | <b>Total:</b>                         | <b>15</b> |                | <b>Total:</b>                            | <b>15</b> |                | <b>Total:</b> | <b>15</b> |                | <b>Total:</b> |     |

**Notes:**

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

- MATH 215 is offered winter quarter of even years.
- MATH 220 is offered every spring quarter.

Most four-year universities require one year of a single foreign language as a graduation requirement.