## PROGRAMMING & SOFTWARE DEVELOPMENT, AAS

Follow this map to graduate in two years, though other paths are possible. Contact an advisor on My LaGuardia for additional support or if you require developmental courses. See reverse for additional information.

### DEGREE MAP

#### SEMESTER 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Category</th>
<th>Priority</th>
<th>Credits</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF101 First Year Seminar for Computer Science¹</td>
<td>PC</td>
<td>x</td>
<td>2 (3hrs)</td>
<td>I</td>
</tr>
<tr>
<td>ENG101 English Composition</td>
<td>RC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAT115 College Algebra and Trigonometry</td>
<td>RC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>SCB101 Topics in Biological Sciences or other Life &amp; Physical Sciences Course Option</td>
<td>RC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAT200 Precalculus²</td>
<td>FC</td>
<td>x</td>
<td>4 (5hrs)</td>
<td>II</td>
</tr>
</tbody>
</table>

#### SEMESTER 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Category</th>
<th>Priority</th>
<th>Credits</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG102 English Composition II</td>
<td>RC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC101 Introduction to Computer Science³</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC172 Web Development I⁴</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>Flexible Core Course Option</td>
<td>FC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC109 Introduction to Visual Programming⁵</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>II</td>
</tr>
<tr>
<td>MAC125 Advanced C/C++ Programming⁶</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>II</td>
</tr>
</tbody>
</table>

#### SEMESTER 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Category</th>
<th>Priority</th>
<th>Credits</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC190 Object-Oriented Programming⁷</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC250 Database Concepts and Programming⁸</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC221 App Development for iOS⁹</td>
<td>PC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC232 UNIX Network Operating Systems¹⁰</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC280 Game Programming¹¹</td>
<td>PC</td>
<td></td>
<td>3 (4hrs)</td>
<td>II</td>
</tr>
</tbody>
</table>

#### SEMESTER 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Category</th>
<th>Priority</th>
<th>Credits</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC110 Systems Analysis and Design¹²</td>
<td>PC</td>
<td>x</td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC220 App Development for Android Devices¹³</td>
<td>PC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>MAC272 Web Development II¹⁴ (Capstone)</td>
<td>PC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
<tr>
<td>Flexible Core Course Option</td>
<td>FC</td>
<td></td>
<td>3 (4hrs)</td>
<td>I</td>
</tr>
</tbody>
</table>

Register in CUNYfirst for “Intent to Graduate” (GRDOOO) in your final semester.

### DEGREE FULFILLMENT

- **12 credits**  Pathways Required Core (RC)
- **9 credits**  Pathways Flexible Core (FC)
- **39 credits**  Program Core (PC)
- **60 credits**  Total

laguardia.edu/Programming

Effective Fall 2019-Spring 2020 Catalog. Reviewed July 2019. Check Degree Audit and speak to an advisor if you enrolled prior to the listed catalog year.
IMPORTANT NOTES

DEVELOPMENTAL COURSES Based on placement results, you may require additional preparation before entering college-level English or Math courses. Options can include:
- a) developmental courses such as ENA099 or MAT095;
- b) English-as-a-Second-Language (ESL) courses;
- c) Co-requisite courses such as ENA/ENC101, CSE111, or MAT117/119/123;
- d) CUNY Start.
Speak to an advisor to find out more.

SESSIONS I AND II Each semester has two parts, Session I (12-weeks) and Session II (6-weeks). It is recommended that you take 15 credits per semester for timely graduation. For questions regarding financial aid or tuition and fees, please visit Student Financial Services in C-107.

CREDITS & HOURS Courses often meet for the same number of hours per week as academic credits awarded, but in some cases your classes meet for more hours, listed in the CREDITS column when applicable.

PRIORITY COURSES Priority Courses are important for your progress in the degree and should be taken in the suggested order.

PATHWAYS FLEXIBLE CORE You may choose Flexible Core courses based on interests or transfer goals. Speak to an advisor or view Degree Audit to see a full list of options and/or requirements. Generally, you must take courses in different categories:
- Creative Expressions
- Individual and Society
- Scientific World
- U.S. Experience in its Diversity
- World Cultures and Global Issues

URBAN STUDIES All students must complete an Urban Studies course to graduate. Urban Studies courses have an “N” at the end of the course code (e.g. HUN192).

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PRE-/CO-REQUISITES

Refer to the Pre- and Co- Requisite List below to best select courses for each semester.

PRE-REQUISITE A pre-requisite course must be completed prior to taking another course.

CO-REQUISITE Co-requisite courses must be taken during the same session as another course.

1. CSF101 PRE: None
2. MAT200 PRE: MAT115/117
3. MAC101 PRE: CSE99 & MAT200 & P/C: ENG99
4. MAC172 PRE/CO: MAC 101
5. MAC109 PRE: MAC 101/MAC 108
6. MAC125 PRE: MAC 101
7. MAC190 PRE: MAC 101/MAC 108
8. MAC250 PRE: MAC 101/MAC 108
9. MAC221 PRE: MAC 101
10. MAC232 PRE/CO: MAC101/MAC108
11. MAC280 PRE: MAC 109
12. MAC110 PRE: ENG 101 & MAC 101/109
13. MAC220 PRE: MAC 190
14. MAC272 PRE: MAC 172 & MAC 250

NOTE

It is strongly recommended that students meet with the Program Director to discuss selection of Program Core courses.

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