

Degree Pathway for IIT Software Engineering Apprenticeship Program

A.A.S. in Internet and Information Technology – Catalog Year 2022-23

The number of credits you take each year will determine when you graduate. To graduate on time, you are strongly encouraged to enroll in at least 30 credits toward your degree during the calendar year, including fall and spring semesters and winter and summer sessions. This Degree Pathway is designed for students who place into **ENGL-101 and MA-119 or MA-114** and who are interested in the **NY Jobs Council Software Engineering Apprenticeship Program**. An additional pathway is available for students who must complete developmental math or English or who are not interested in the apprenticeship program. Please see the degree website or your advisor for more information. For additional information on the Apprenticeship Program, please contact SNika@gcc.cuny.edu

Courses in **Bold Text** are prerequisites for later courses or only offered in the Fall or Spring semester and should be taken where indicated in the sequence.

Fall Semester #1

| Courses | Credits | Prerequisites and Corequisites ¹ |
|---|-----------|--|
| ENGL-101 English Composition I (Required Core 1A - English Composition) | 3 | Prerequisite: Complete developmental requirements in English |
| ET-574 Programming and Applications with Python | 3 | None |
| ET-506 LINUX Operating System | 3 | Corequisite ET-704 |
| ET-704 Networking Fundamentals I | 4 | None |
| ET-710 Front End Web Development | 3 | None |
| Total credits for the term | 16 | |

Spring Semester #1

| Courses | Credits | Prerequisites and Corequisites ¹ |
|--|--------------|---|
| ENGL-102 English Composition II (Required Core 1A - English Composition) | 3 | Prerequisite: ENGL-101 or placement |
| MA-119 College Algebra or MA-114 College Algebra and Trigonometry for Technical Students (or higher) (Required Core 1B - Mathematical & Quantitative Reasoning) | 3-4 | Prerequisite: Complete developmental requirements in math |
| ET-712 JavaScript Programming: Client and Server | 3 | Prerequisite: ET-710 |
| ET-713 Full Stack Web Development | 3 | Prerequisite: ET-710 |
| ET-575 Intro. to C++ Programming Design and Implementation (Flexible Core 2E – Scientific World) | 3 | Prerequisite: ET-574 |
| Total credits for the term | 15-16 | |

Fall Semester #2

| Courses | Credits | Prerequisites and Corequisites ¹ |
|--|-----------|---|
| SP-217 Business Communication (Flexible Core 2D – Individual and Society) | 3 | Check individual courses for prerequisites and corequisites |
| One History or Social Science course from Flexible Core 2A, 2B, 2D, or 2E ² (HIST-100 series, ANTH, CRIM-101 or 102, ECON, PLSC, PSYC, or SOCY) ECON-101 and ECON-102 are highly recommended. | 3 | Check individual courses for prerequisites and corequisites |
| ET-721 Software Development Practicum (fall only) | 2 | ET-712 and ET-713 |
| ET-580 Object-Oriented Programming in C++ | 3 | ET-575 with a grade of C or better |
| ET-581 Object-Oriented Programming in Java | 3 | ET-574 or ET-575 with a grade of C or better |
| Total credits for the term | 14 | |

Spring Semester #2

| Courses | Credits | Prerequisites and Corequisites ¹ |
|--|-----------|---|
| One course from Required Core 1C: Life & Physical Sciences | 3-4 | Check individual courses for prerequisites and corequisites |
| Science Laboratory course ³ | 0-1 | Corequisite: 3-credit Science course in Required Core 1C |
| ET-582 Data Structures | 3 | ET-580 or ET-581 |
| TECH-931 Cooperative Education in Engineering Technology | 3 | Department permission |
| TECH-932 Cooperative Education in Engineering Technology | 3 | Department permission |
| ET-991 Cooperative Education in Engineering Technology | 1 | Department permission |
| ET-992 Cooperative Education in Engineering Technology | 1 | Department permission |
| Total credits for the term | 15 | |
| Total credits required for the A.A.S. degree | 60 | |

Notes:

1. Prerequisites for a course must be passed before taking the course. Corequisites must be passed before taking the course or taken in the same term as the course.
2. Students are required to take particular courses in some areas of the Common Core that fulfill both general education and major requirements. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.
3. This course is not required for students who take a 4-credit STEM variant course in Required Core 1C.

All students must complete two (2) WI designated classes to fulfill degree requirements.

Major Elective Courses – courses in **bold** are strongly recommended

| Major Elective Courses | Credits | Prerequisites and Corequisites |
|---|---------|--|
| ET-232 Wireless Mobile Communications | 3 | Prerequisite: ET-704 or permission of the Department |
| ET-375 Introduction to Robotics | 4 | Prerequisite: ET-110 and either ET-510 or ET-540 or POD |
| ET-481 Personal Computer Technology, Architecture & Troubleshooting | 2 | Prerequisite: ET-501 or ET-504 or permission of the Department |
| ET-504 Operating Systems and System Deployment | 2 | None |
| ET-570 Creating Smartphone Apps ^{1,2} | 3 | None |
| ET-575 Introduction to C++ Programming Design & Implementation^{1,2} | 3 | Prerequisite: MA-321 or corequisite: MA-114, MA-119 or MA-440 |
| ET-580 Object-Oriented Programming ² | 3 | Prerequisite: ET-575 with a grade of C or better |
| ET-581 Object-Oriented Programming in Java | 3 | Prerequisite: ET-574 or ET-575 with a grade of C or better |
| ET-582 Data Structures (spring only) | 3 | ET-580 or ET-581 |
| ET-585 Computer Architecture ² | 3 | Prerequisite: ET-574 or ET-575 |
| ET-705 Networking Fundamentals II | 4 | Prerequisite: ET-704 |
| ET-714 Web Technologies II: Building Database-Driven Web Sites | 4 | Prerequisite: ET-710 |
| ET-716 Java Programming Technology | 4 | Prerequisites: ET-710 and ET-712 |
| ET-720 Advanced Web & Multimedia Programming Applications | 1 | Prerequisite: ET-710 |
| ET 725 Computer Network Security¹ | 3 | Prerequisite: ET 704 or permission of the department |
| ET-726 Advanced Network Security | 3 | Prerequisite: ET-725 |
| ET-754 Security Policies and Procedures | 3 | None |
| ET 756 Database Administration | 3 | Corequisite: ET-574 or ET-575 |
| ET-757 Cloud Technology Developing | 3 | Prerequisite: ET-713 (formerly ET-718) or ET-756 or permission of the Department |
| ET-758 Cloud Technology Operations | 3 | Prerequisite: ET-757 or permission of the Department |
| ET-760 Ethical Hacking and Penetration Testing | 3 | Prerequisite: ET-725 |
| ET-991 Cooperative Education ² | 1 | Permission of the Department |
| ET-992 Cooperative Education | 1 | Permission of the Department |
| TECH-931 Cooperative Education | 3 | Permission of the Department |
| TECH-932 Cooperative Education | 3 | Permission of the Department |

Notes:

1. Offered winter session.
2. Offered summer session.