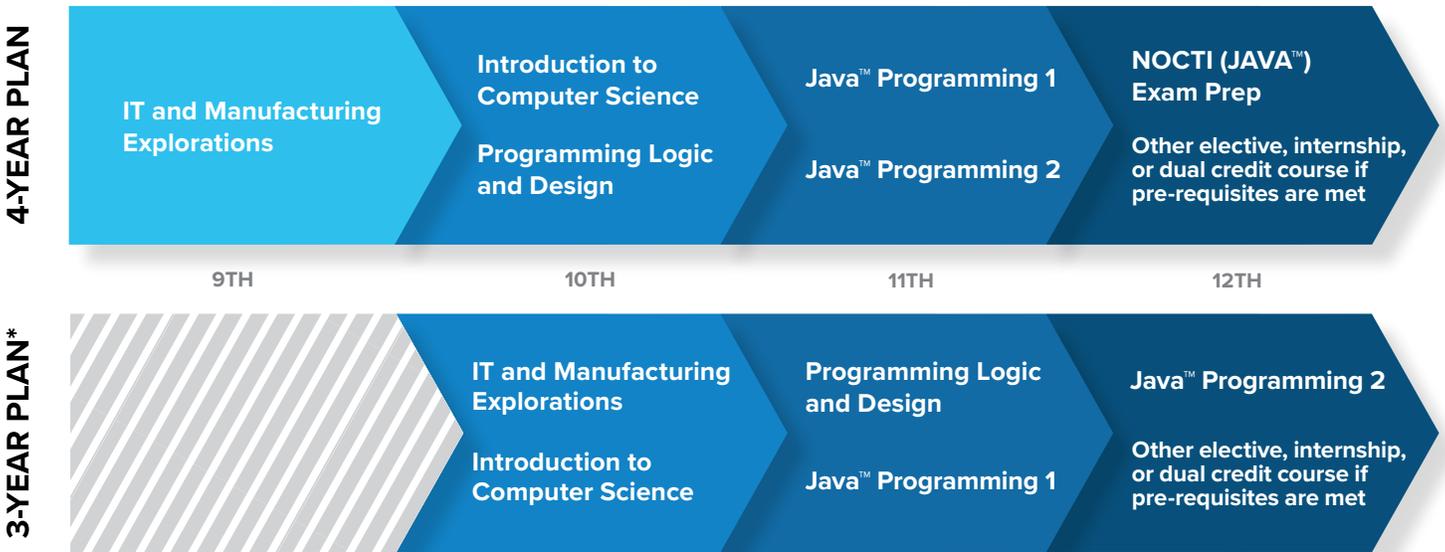# Your Student's Head Start on Career Goals and College Aspirations

INFORMATION TECHNOLOGY (IT) PROGRAMMING AND SOFTWARE DEVELOPMENT PATHWAY

The Destinations **Programming and Software Development Pathway** prepares students to learn the language of computers, create software programs, maintain computer systems and software, and help others solve computer program-related issues.

SAMPLE COURSE PROGRESSION

4-YEAR PLAN

9TH	10TH	11TH	12TH
IT and Manufacturing Explorations	Introduction to Computer Science Programming Logic and Design	Java™ Programming 1 Java™ Programming 2	NOCTI (JAVA™) Exam Prep Other elective, internship, or dual credit course if pre-requisites are met

3-YEAR PLAN*

	IT and Manufacturing Explorations Introduction to Computer Science	Programming Logic and Design Java™ Programming 1	Java™ Programming 2 Other elective, internship, or dual credit course if pre-requisites are met

Possible Careers

- Applications Software Developer
- Computer Programmer
- Computer and Information Systems Manager
- Software Quality Assurance Engineer
- Systems Software Developer

Industry-Recognized Credentials

Destinations programs prepare students for the:

- National Occupational Competency Testing Institute Computer Programming Exam

Success Beyond High School

Destinations graduates may pursue:

- Computer science certificate
- Associate's degree in information technology
- Bachelor's degree in computer science

DID YOU KNOW?**

SOFTWARE DEVELOPERS CAN EARN

$93,350/YR

22% JOB GROWTH
EXPECTED BY 2022

COMPUTER PROGRAMMERS CAN EARN

$74,280/YR

8% JOB GROWTH
EXPECTED BY 2022

*Program may be accelerated depending on student goals and abilities and course availability. **Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014–15 Edition*.

COURSE DESCRIPTIONS

IT AND MANUFACTURING EXPLORATIONS

This course is designed as an exploration of two career clusters. Students receive an introduction to these fields so they can better assess which pathway to pursue. The first half of the course provides a comprehensive introduction to the essentials of web design, from planning page layouts to publishing a complete site to the web. Students learn how to use HTML to design their own web pages. The course covers basic HTML tags for formatting text as well as more advanced tags. Through real-world design scenarios and hands-on projects, students create compelling, usable websites using the latest suite of free tools. The second half of the course has an introduction to engineering and to advanced manufacturing.

INTRODUCTION TO COMPUTER SCIENCE

This course provides a solid foundation using an algorithm-driven approach that is ideal for students' first course in computer science. Students learn about emerging topics, such as privacy, drones, cloud computing, and net. Students also are introduced to programming languages such as C++, Java™, Python, C#, and Ada.

PROGRAMMING LOGIC AND DESIGN

This course prepares student programmers for success by teaching them the fundamental principles of developing structured program logic. This course takes a unique, language-independent approach to programming, with a distinctive emphasis on modern conventions and prepares students for all programming situations with introductions to object-oriented concepts, UML diagrams, and databases.

JAVA™ PROGRAMMING 1 AND 2

These courses introduce programmers to the power of Java for developing applications while learning the basic principles of structured and object-oriented programming. These courses incorporate the latest version of Java with meaningful real-world exercises, and a wealth of case problems helps students build skills critical for ongoing programming success.

NOCTI (JAVA™) EXAM PREP

This course prepares you for the NOCTI and A*S*K certification examinations. Industry-recognized certifications are based on the scores to these tests.

OTHER ELECTIVES

May not be offered at every school, every semester.
Check with school for details.

3D Art 1: Modeling, 3D Art 2: Animation, Digital Photography, Image Design and Editing, Digital Arts 1, Digital Arts 2, Microsoft® Word® 2016/365 with Exam Prep, Microsoft® Excel® 2016/365 with Exam Prep, Microsoft® PowerPoint® 2016/365 with Exam Prep, Microsoft® Access® 2016/365 with Exam Prep