

**GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY**

Career Cluster: Information Technology (IT)

State Program: Programming (IT0046002)

Local Program: Python Programming (IT0040062)

Program Hours: Secondary Students: 480 Hours
Adult Students: 480 Hours

Instructor: Name: Emily Ozment
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Academic Credit: Secondary Students: 3 high school credits per year – *OK Promise credit
Adult Students: Transcript

Prerequisites: Basic computer skills and Microsoft Windows 11 are recommended.

Program Description:

This one-year program prepares students for careers in programming and web application development. The course provides a comprehensive foundation in programming languages, software development methodologies, and web technologies. Students will gain hands-on experience in designing, coding, and deploying applications, with a focus on real-world problem-solving and industry best practices.

Objectives:

- **Programming Fundamentals:** Introduction to programming languages.
- **Web Development:** Front-end design using HTML, CSS, and JavaScript frameworks (e.g., React, Angular) and back-end development with databases and server-side scripting.
- **Database Management:** Understanding relational databases, SQL, and data handling in web applications.
- **Application Development:** Agile methodologies, version control systems like Git, and testing frameworks.
- **Capstone Projects:** Develop and deploy a fully functional web application as a portfolio piece.

Related Career Opportunities:

By the end of the program, students will be equipped with the skills to pursue entry-level roles such as junior developer, web application programmer, or full-stack developer. The curriculum also emphasizes teamwork, troubleshooting, and developing a robust portfolio to ensure graduates are job-ready in a competitive tech landscape.

DESCRIPTION OF COURSES

Course #	Course Name	HST	HSL	ADT	ADL
BT00183	Programming Fundamentals (*8222)	30	90	30	90

Introduces the foundational concepts and skills of programming. Designed for beginners, the course provides a solid grounding in computational thinking, problem-solving, and basic coding principles. Students will learn to write, debug, and execute programs using widely used programming languages and tools.

Final Grade

Semester grade will be calculated by averaging grades in each category and summing each category according to their assigned weight. Progress reports will be sent to home schools at six and twelve-week intervals each semester as required or requested. Grades are accessible on-line at <http://sonisweb.greatplains.edu/studsect.cfm>.

Grading Scale:

The grading scale as adopted by the Board of Education is as follows:

A	=	90 – 100
B	=	80 – 89
C	=	70 – 79
D	=	60 – 69
F	=	Below 60
W	=	Withdrawn
I	=	Incomplete
N	=	No Grade (Refer to Student Handbook)
S	=	Satisfactory

Make-Up Work Policy:

All Make-Up Work Is the Responsibility of The Student. Students should always arrange for any make-up work with the instructor. Please keep track of your progress and grades. If you have any questions concerning your grades, please visit with your instructor.

Attendance Policy:

For specific information related to attendance and tardiness refer to the Student Handbook. Students should keep a written record of their absences and tardiness.

Course Requirements and Expectations:

The general course requirements and expectations include:

- This program is part of the Information Technology Cluster at the Great Plains Technology Center. Students are encouraged to continue their training in the additional programs offered in Information Technology.
- Teaching methods consist of lecture and lab application.
- The Career Tech Student Organization (CTSO) offers outstanding opportunities for development of leadership and social skills. CTSO membership is part of the curriculum. Therefore, all students are members of a CTSO and are expected to participate in the CTSO activities.
- All students must adhere to the policies and procedures outlined in the Great Plains Technology Center Student Handbook.
- Students who need to make-up time will do the make-up work Monday through Thursday after scheduled instructional time by appointment.

Student Behavior Includes:

- Students and equipment safety will be the number one priority in the classroom.
- All students will wear appropriate safety apparel while working in computer lab and in the classroom.
- Food or drinks will not be allowed in the classroom or lab area.
- Wrist straps and safety glasses will be worn when handling RAM or other IC's.
- Students needing assistance will request help from the instructor, not another student. When appropriate, the instructor may allow one student to help another.
- Any student who is approached by Great Plains Technology Center faculty, staff, or other student with a computer problem or repair request will refer the person to the instructor.
- Students will keep and enter daily notes in their journal.

Industry Alignments:

- CompTIA
- IEEE Computer Society
- Association for Computing Machinery

Certification Outcomes:

- PCEP: Certified Entry-Level Python Programmer (1511)
- PCAP: Certified Associate Python Programmer (1516)

CIP Code and SOC Code Crosswalk:

- CIP Code: 11.0201 – Computer Programming/Programmer
- SOC Code: 15-1251 – Computer Programmers

OCAS program codes:

- 9550 – Programming Technician
- 9557 – Web Designer

OCAS course codes:

- 8222 – Programming Fundamentals
- 8160 – Advanced Programming
- 8212 – Web Application Technologies
- 8106 – Career Major Capstone

Instructional Materials:

TechSmart Codes Online curriculum