

Recommended Sequence of Courses Courses Offered at

Fundamentals of Computer Science	CHS9
**Computer Science I	CHS9
Computer Science I	CHS
AP Computer Science Principles	CHS
*Computer Science II	CHS
*AP Computer Science A	CHS
*Practicum in Information Technology	CHS

**** For students that completed Algebra I in 8th Grade**
***Advanced Courses**

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Association JAVA SE 8 Programmer	Certified Computing Professional	Computer Programming/Programmer General	Management Information Systems, General	
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer		
Microsoft Technology Associate, Introduction to Programming Using Python, HTML or CSS	AEM 6 Developer	Computer Science		
Microsoft Technology Associate, Introduction to Programming Using Java or Java Script	Certified Software Analyst	Information Science/Studies		

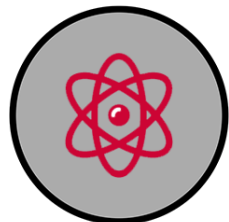
OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	%GROWTH
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developer, Applications	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
Exploration Activities: Technology Student Association (TSA); National Technical Honors Society (NTHS)	Work Based Learning Activities: Obtain Industry based certification.

*Includes Level I and Level II Certificates
 For more information on postsecondary options for this programs of study, visit TXCTE.org

The programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.



Successful completion of the Programming and Software Development program of study will fulfill requirements of a Business and Industry or STEM Endorsement.

Approved Statewide Program of Study - September 2019



COURSE INFORMATION

Fundamentals of Computer Science

7200Y (7200 A and B)

Grades: 9-12

Level: 1

Credit: 1

Prerequisite: None

Certification Possibility & Required Fees (no fees at CHS9): MTA Introduction to Programming Using Python (\$25)

CTSO Membership opportunity: TSA- Technology Student Association- \$25 Dues

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.

Computer Science I

7201Y (7201 A and B)

Grades: 9-12

Level: 2

Credit: 1

Prerequisite: Algebra I

Certification Possibility & Required Fees (no fees at CHS9): MTA Introduction to Programming Using Java (\$25)

CTSO Membership Opportunity: TSA - Technology Student Association- \$25 Dues

Computer Science I will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations, systems, and concepts.

Computer Science II

7202Y (7202 A and B)

Grades: 10-12

Level: 3

Credit: 1

Prerequisite: Computer Science I

Certification Possibility & Required Fees: Microsoft MTA Software Development Fundamentals C# (\$25)

CTSO Membership opportunity: TSA- Technology Student Association- \$25 Dues

Computer Science II will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of computer science through the study of technology operations, systems, and concepts.

AP Computer Science Principles

7204Y (7204 A and B)

Grades: 10-12

Level: 4

Credit: 1

Prerequisite: None

Certification Possibility & Required Fees: AP Computer Science Principles Exam (\$25)

CTSO Membership opportunity: TSA- Technology Student Association- \$25 Dues

This course offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. The goal of this course is to broaden your understanding of computer science for use in a diversity of majors and careers. In contrast, the AP Computer Science A course goal is to develop skills for future study or a career in computer science or other STEM fields.

There is no level-down option for this course.

COURSE INFORMATION

®AP Computer Science A

7203Y (7203 A and B) - a second .5 credit (7205 A and B) will be added to the student's transcript at the end of each semester upon successful completion of 7203 A and B

Grades: 11-12 **Level:** 4 **Credit:** 2 (1 credit is a numerical grade & 1 credit is Pass/Fail)

Prerequisite: Algebra I

Recommended Prerequisite: Computer Programming II

Certification Possibility & Required Fees: AP Computer Science Exam (\$25)
CTSO Membership opportunity: TSA- Technology Student Association- \$25 Dues

AP Computer Science A is equivalent to a first-semester, college level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities.

There is no level-down option for this course.

Note: This technology applications course satisfies a math credit requirement for students on the Foundation High School Program. AP Computer Science may count as a fourth year math for graduation for learners who also have credit for Algebra I, Geometry, and Algebra II.

Practicum in Information Technology

7223Y (7223 A and B) Programming

Grades: 11-12 **Level:** 3 **Credit:** 2 (This is a DOUBLE BLOCKED COURSE- 2 periods)

PROGRAM QUALIFICATION FORM & PATHWAY TEAM APPROVAL REQUIRED FOR ALL SENIOR LEVEL / PRACTICUM COURSES

Prerequisite: At least 2 courses in this Program of Study

Certification Possibility & Required Fees: MTA Database Fundamentals (\$25)
Must be able to provide transportation for off campus Practicum Experiences.
CTSO Membership opportunity: TSA- Technology Student Association- \$25 Dues

Students will gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an industry mentor, as an unpaid or paid internship, as part of a capstone project, or as career preparation.

Coppell ISD offers career and technical education programs in Business, Marketing, Arts, AV Tech & Communications, Engineering, Computer Science and Health Science. Admission to these programs is based on grade level and prerequisites met.

It is the policy of Coppell ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.

It is the policy of Coppell ISD not to discriminate on the basis of race, color, national origin, sex, handicap, or age in its employment practices as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975, as amended; and Section 504 of the Rehabilitation Act of 1973, as amended.

Coppell ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

For information about your rights or grievance procedures, contact the Title IX Coordinator, at 200 S. Denton Tap Rd.; Coppell, Texas 75019, 214-496-6000, and/or the Section 504 Coordinator, at 268 Southwestern Blvd; Coppell, Texas 75019, 214-496-6938.

El Distrito Escolar Independiente (Independent School District, ISD) de Coppell ofrece programas de educación técnica o profesional en las áreas de comercio, mercadeo, artes, tecnología y comunicación audiovisual, ingeniería, informática y ciencias de la salud. La admisión a estos programas se basa en el nivel de estudios y el cumplimiento de los requisitos.

Es política del ISD de Coppell no discriminar en sus programas vocacionales, servicios o actividades en función de la raza, color, origen nacional, sexo o discapacidad, tal como lo exigen el Título VI de la Ley de Derechos Civiles de 1964, enmendada, el Título IX de las Enmiendas Educativas de 1972 y la Sección 504 de la Ley de Rehabilitación de 1973, enmendada.

Es política del ISD de Coppell no discriminar en sus prácticas laborales en función de la raza, color, origen nacional, sexo, edad o discapacidad, tal como lo exigen el Título VI de la Ley de Derechos Civiles de 1964, enmendada, el Título IX de las Enmiendas Educativas de 1972, la Ley de Discriminación por Edad de 1975, enmendada, y la Sección 504 de la Ley de Rehabilitación de 1973, enmendada.

El ISD de Coppell tomará medidas para garantizar que la falta de conocimientos del idioma inglés no sea un impedimento en la admisión y la participación en todos los programas educativos y vocacionales

Para obtener información sobre sus derechos o procedimientos de quejas, contacte al Coordinador del Título IX, ubicado en 200 S. Denton Tap Rd.; Coppell, Texas 75019, a través del teléfono 214-496-6000; o a la Coordinadora de la Sección 504, ubicada en 268 Southwestern Blvd; Coppell, Texas 75019, a través del teléfono 214-496-6938.