

# CTE Pathways at NCA

## **Purpose:**

Research indicates that students enrolled in career pathways during high school tend to be more engaged in their educational process – having a vested interest in their future career goals. (ACT.org) Students at NCA will benefit from enrolling into a CTE pathway 4-year plan because they will learn workplace skills and leave high school ready for their post-graduation pursuits. NCA will benefit from enrolling students into CTE pathways programs because we will begin to draw students who feel more connected to their education.

## **Focus Group Program 2020-2021:**

Beginning March 1, 2020 – Counselors will identify students in grade 8 who would be good candidates to participate in a focus group utilizing the CTE progression plans for the 2020-2021 school year. Criteria: strong career focus goals for future, good communication skills, academically strong students.

April/May – Students identified as a good fit for the program will receive a phone call from their counselor to discuss the focus group and see if there is interest from both student and CT to participate. All students will be asked to complete a career interest assessment.

May - Students confirmed as participants and caretakers of those students will be invited to a required focus group meeting (live lesson). Career assessment results will be discussed, potential progression plans shared, and CTE Pathways chosen. Note: all pathways will start with the same two courses; Career Explorations and Business Communications for year one. This will allow for potential shift to a new pathway for year two.

August – All approved focus group students will begin year one of their CTE programs.

Ongoing Monitoring and Data Collection – Students and caretakers will receive a minimum of one monthly check in call and one monthly LL session related to the pilot CTE program as well as brief surveys to monitor progress, degree of difficulty of the program, supports in place, and support needed.

# Business & Marketing Education

## Career Clusters & Program Alignment


- Business, Management & Administration –
  - o Administrative Services
- Finance -
  - o Accounting and Finance
- Marketing, Sales & Service –
  - o Marketing

## Program Course Sequences


CTE Program Name	CTE Core Courses Required	Other Recommended Courses
<b>Administrative Services</b>	<b>Core Course Sequence</b> Intro to Business (0.5) Career Explorations (0.5) Business Keyboarding (0.5) Administrative Duties & Office Management (0.5) Business Info Systems (0.5) Business Communications (0.5) Intro to Computers & Info Tech IC3 (1.0)	<b>Recommended Courses</b> Honors or AP English Statistics (or AP Stats) Honors or AP Govmt Economics Personal Finance
<b>Accounting and Finance</b>	<b>Core Course Sequence</b> Intro to Business (0.5) Career Explorations (0.5) Intro to Finance (0.5) Advertising Sales and Promotion (0.5) Accounting I / II AP Macroeconomics (0.5) AP Microeconomics (0.5)	<b>Recommended Courses</b> Honors or AP English Statistics (or AP Stats) Economics Personal Finance Consumer Math A /B
<b>Marketing</b>	<b>Core Course Sequence</b> Entrepreneurship: Starting Your Own Business (1.0) Business Communications (0.5) Intro to Business (0.5) Advertising Sales and Promotion (0.5) Intro to Finance (0.5) Business Law (0.5) International Business (0.5)	<b>Recommended Courses</b> Honors or AP English Statistics (or AP Stats) Economics Personal Finance Consumer Math A/B

# Typical 4-Year Course Progression Plan


## Administrative Services:

 <b>NCA High School Administrative Services Interest Course Sequence</b>				
		2018-2019		Updated 1/16/2018
Subject	1st	2nd	3rd	4th
English	English 9	English 10	English 11	English 12
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies			
Option A	Algebra I	Geometry	Algebra II	Statistics (or AP Statistics) or Consumer Math A/B
Option B	Geometry	Algebra II	Statistics (or AP Statistics)	Consumer Math A/B
<b>Science</b>	Below are examples of tracks you might take in your high school science studies			
Option B	Biology	Physical Science	Other Science	
<b>Social Studies</b>	Personal Finance	World History	US History	Honors or AP American Government
<b>CTE Courses</b>	Intro to Business & Career Explorations	Business Keyboarding / Administrative Duties and Office Management	Business Info Systems & Business Communications	Intro to Computers & Info Technology IC3 A/B
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5 credit)	Entrepreneurship: Starting Your Own Business A/B (optional)	Economics
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (recommend Spanish)	Foreign Language (recommend Spanish)	Senior Success
<b>Total Number of Required Credits: 22.5</b>				
* Recommend honors or AP English.				

## Accounting and Finance

 <b>NCA High Accounting &amp; Finance Interest Course Sequence</b>				
		2018-2019		Updated 1/16/2018
Subject	1st	2nd	3rd	4th
English	English 9	English 10	English 11	English 12
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies			
Option A	Algebra I	Geometry	Algebra II	Statistics (or AP Statistics) or Consumer Math A/B
Option B	Geometry	Algebra II*	Statistics (or AP Statistics)	Consumer Math A/B
<b>Science</b>	Below are examples of tracks you might take in your high school science studies			
Option B	Biology	Physical Science	Other Science	
<b>Social Studies</b>	Personal Finance	World History	US History	American Government
<b>CTE Courses</b>	Intro to Business & Career Explorations	Intro to Finance*/ Advertising Sales and Promotion	Accounting I / II	AP Macroeconomics and AP Microeconomics
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5 credit)	Intro to Computers & Info Technology IC3 A/B (optional)	Economics
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (recommend Spanish)	Foreign Language (recommend Spanish)	Senior Success
<b>Total Number of Required Credits: 22.5</b>				
* Recommend honors or AP English.				

## Marketing

 <b>NCA High School Marketing Interest Course Sequence</b>				
2018-2019			Updated 1/16/2018	
Subject	1st	2nd	3rd	4th
<b>English</b>	English 9	English 10	English 11	English 12
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies			
<b>Option A</b>	Algebra I	Geometry	Algebra II	Statistics (or AP Statistics) or Consumer Math A/B
<b>Option B</b>	Geometry	Algebra II	Statistics (or AP Statistics)	Consumer Math A/B
<b>Science</b>	Below are examples of tracks you might take in your high school science studies			
<b>Option B</b>	Biology	Physical Science	Other Science	
<b>Social Studies</b>	Personal Finance	World History	US History	American Government
<b>CTE Courses</b>	Entrepreneurship: Starting Your Own Business A/B	Business Communications / Intro to Business	Advertising Sales and Promotion & Intro to Finance	Business Law & International Business
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5)	Speech and Debate & Career Explorations	Economics
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (recommend Spanish)	Foreign Language (recommend Spanish)	Senior Success
<b>Total Number of Required Credits: 22.5</b>				
<i>* Recommend honors or AP English.</i>				

## CTE Core Course Descriptions

<b>Accounting I</b>	<b>Credits: 0.5</b>
<p>This course introduces you to accounting concepts and principles, financial statements, internal control design, and accounting for partnerships. By the end of the course, you will be able to</p> <ul style="list-style-type: none"> <li>• Define terms related to business accounting</li> <li>• Apply accounting concepts and principles</li> <li>• Prepare financial statements</li> <li>• Analyze financial statements for decision making</li> <li>• Evaluate internal controls</li> <li>• Account for partnership transactions</li> <li>• Differentiate international financial reporting standards from generally accepted accounting principles</li> </ul>	
<b>Administrative Duties and Office Management</b>	<b>Credits: 0.50</b>
<p>In this course you will learn the skills and knowledge required to perform tasks in the administrative department of a medical office. Topics include, but are not limited to, receiving patients, scheduling appointments, handling medical records, and processing insurance claims. By the end of the course, you will be able to:</p>	

- Employ the steps for basic medical office operating procedures
- Produce clear written communication in the administrative department
- Prepare plans for the medical office facility, office layout, office equipment, and supplies
- Identify the types of computers and systems used in the medical office
- Employ basic security procedures for the medical office computer system
- Describe the function, duties, and procedures of patient reception
- Describe and employ bookkeeping procedures in the medical office
- Employ procedures for processing medical insurance claims

### **Advertising Sales and Promotion**

**Credits: 0.5**

Do you have a business idea but are unsure about how to market your ideas to customers? Do careers in business appeal to you? In this Introduction to Marketing class, the student will master the basics of marketing, including core concepts such as financing, pricing, distribution, product management, and more. Throughout the course, the student will learn about the basics of economics and economic systems, managing business finances accounting practices, operating a business in the global marketplace, generating business ideas and seeking out business opportunities, creating a business plan, and promoting and advertising a business.

### **AP Macroeconomics**

**Credits: 0.5**

AP Macroeconomics presents the principles of economics that apply to an economic system as a whole. Students will distinguish between absolute and comparative advantage, explore the way the tools of supply and demand are used to analyze how a free-market economy works, and study the concept of a business cycle. In addition, students will study and analyze economic fluctuations, the dynamics of unemployment, and inflation.

### **AP Microeconomics**

**Credits: 0.5**

Microeconomics emphasizes how individuals make choices with limited resources. The student will examine concepts such as supply and demand, factors of production, roles of labor and management, the relationship between the environment and the economy, and the impact of the government on individual decision making processes. The student studies the stock market as an investment option and trace various stocks through the semester using the Wall Street Journal and the Internet as resources.

### **Business Communications**

**Credits: 0.5**

In this course, you will explore business communication, including letters, memos, electronic communication, written reports, oral presentations, and interpersonal communication. Resumes, application letters, interviewing tips, and employment follow-up are also covered. By the end of the course, you will be able to

- Evaluate elements of effective business communication
- Explain barriers that can create ineffective communication
- Analyze ethical issues related to communication
- Examine how technology has impacted business communications
- Explain the importance of intercultural communication in the business setting
- Apply knowledge of effective business communication

### **Business Information Systems**

**Credits: 0.5**

In this course, the student is introduced to various information and communications technologies. The student will examine and explain how information systems are used to solve problems and make better business decisions.

### **Business Keyboarding**

**Credits: 0.5**

In this course, the student will explore a variety of keyboarding strategies including learning the function of all the keys, how to find them quickly, and the importance of keyboarding for his future career. Major concepts of this course include the alphabetic and numeric keyboard, history of the keyboard and new technology, keyboard skill building (speed and accuracy), business ethics, formatting various academic and business documents.

**Business Law**

**Credits: 0.5**

In this course, you will explore principle areas of business law and topics such as torts, crimes, intellectual property, contracts, negotiable instruments, agency, employment, and forms of business organization. The student will learn rules of law and legal terminology, as well as legal solutions for business-related issues. By the end of the course, you will be able to

- Analyze the legal environment of business in the United States
- Analyze the various employment laws affecting the employer-employee relationship
- Evaluate the forms of business organization in the United States
- Analyze the ethical and social responsibility of business
- Evaluate the various types of government regulation that affect business
- Appraise the impact that international law has on global business

**Career Exploration**

**Credits: 0.5**

From writing an effective resume to giving the perfect interview and succeeding at a chosen career, this course introduces students to a broad scope of future career opportunities and outlines steps to ensure success. Students start planning their transition from secondary school to college and then to the workplace.

Career Exploration is designed for high school students that are ready to begin exploring the workplace and the many paths towards an interesting and fulfilling career. Career Exploration looks at the many career options available and examines the qualifications needed to reach personal career goals.

**Entrepreneurship: Starting Your Own Business**

**Credits: 1.0**

Do you dream of owning your own business? This course can give the student a head start in learning about what he will need to own and operate a successful business. The student will explore creating a business plan, financing a business, and pricing products and services.

**International Business**

**Credits: 0.5**

To Be Added

**Introduction to Business**

**Credits: 0.5**

In this course, the student will explore business in global society, learning terminology, concepts, systems, strategies, and current issues. Topics include the business environment, ethics, entrepreneurship and global business, management, marketing, production, information systems, and financial elements. By the end of the course, the student will be able to

- Describe the key components of the contemporary U.S. and international business environment
- Describe the role of ethics and social responsibility in the business environment

- Examine how businesses can be organized and structured
- Analyze the various functions of and approaches to management
- Examine the key strategies, tools, and issues involved in business operations
- Develop a business plan incorporating business concepts, systems, and strategies

**Introduction to Computers and Information Technology Credits: 0.5**

In this course, the student will gain an understanding of computing and common features of popular applications. The student will practice and apply computer skills needed in today's academic and business environments including word processing, spreadsheet, and presentation applications. Skills needed for working in an Internet or networked environment are also covered. This course prepares the student for the three Internet and Computing Core Certification (IC3) tests.

**Introduction to Finance Credits: 0.5**

In this course, the student will gain an understanding of financial management, including key language and terminology, time-value of money, financial markets and securities, financial statements, financial analysis, risk and return, valuation of stocks and bonds, capital budgeting and valuation, cost of capital and capital structure, working capital management, dividend policy, and international finance. The student will apply financial tools and understand how they impact financial decision making. By the end of the course, the student will be able to

- Explain the primary role of the financial firm and financial manager
- Analyze financial statements
- Explain risk and return relationships
- Evaluate financial markets and securities traded on financial markets
- Apply capital budgeting tools
- Evaluate how international issues impact a financial firm

# Health Science & Public Safety

## Career Clusters & Program Alignment


- Health Science –
  - Medical Assisting/Medical
- Law, Public Safety, Corrections & Security –
  - Law Enforcement/Law

CTE Program Name	CTE Core Courses Required	Other Recommended Courses
<b>Medical Assisting/Medicine</b>	<b>Core Course Sequence</b> Business Communication (0.5) Career Exploration (0.5) Intro to Medical Assisting (0.5) Medical Terminology (0.5) Psychology (1.0) Research Methods (0.5) Anatomy and Physiology (0.5)	<b>Recommended Courses</b> AP Biology Chemistry <b>MD Interest Students:</b> Physics Highest math possible including Statistics Latin I, II, and III
<b>Law Enforcement/Legal</b>	<b>Core Course Sequence</b> Intro to Criminal Justice (0.5) Career Exploration (0.5) Intro to Law (0.5) Criminal Investigation (0.5) Intro to Homeland Security (0.5) Business Law (0.5) Intro to Sociology (0.5) Business Communication (0.5)	<b>Recommended Courses</b> Statistics Honors or AP Govmt Speech and Debate Journalism A/B




# Typical 4-Year Course Progression Plan

## Medical Assisting/Medical:

		2018-2019		Updated 1/16/2018	
		1st	2nd	3rd	4th
<b>Subject</b>					
<b>English</b>	English 9	English 10	English 11	English 12	
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies				
<b>Option A</b>	Algebra I	Geometry	Algebra II	Pre Calculus* or Statistics	
<b>Option B</b>	Geometry	Algebra II	Pre Calculus	Calculus* or Statistics	
<b>Science</b>	Below are examples of tracks you might take in your high school science studies				
	Biology	Chemistry	AP Biology	Physics*	
<b>Social Studies</b>		World History	US History	American Government	
<b>CTE Courses</b>	Business Communication & Career Exploration	Intro to Medical Assisting & Medical Terminology	Psychology A and B	Research Methods & Anatomy and Physiology	
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5 credit)	Elective / College Prep w/ACT	Personal Finance (0.5 credit)	
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (Spanish recommended)	Foreign Language - year two (Spanish recommended)	Senior Success	
<b>Total Number of Required Credits: 22.5</b>					
<i>* Recommend highest math and Physics for any interested in attending med school in future.</i>					

## Law Enforcement/Legal

		2018-2019		Updated 1/16/2018	
		1st	2nd	3rd	4th
<b>Subject</b>					
<b>English</b>	English 9	English 10	English 11	English 12	
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies				
<b>Option A</b>	Algebra I	Geometry	Algebra II	Pre Calculus or Statistics*	
<b>Option B</b>	Geometry	Algebra II	Pre Calculus	Calculus or Statistics*	
<b>Science</b>	Below are examples of tracks you might take in your high school science studies				
<b>Option B</b>	Biology	Chemistry or Physical Science	Other Science		
<b>Social Studies</b>		World History	US History	Honors or AP American Government	
<b>CTE Courses</b>	Intro to Criminal Justice & Career Exploration	Intro to Law & Criminal Investigation	Intro to Homeland Security & Business Law	Intro to Sociology & Business Communication	
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5 credit)	Speech and Debate	Personal Finance (0.5 credit)	
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (Spanish recommended)	Foreign Language - year two (Spanish recommended)	Senior Success	
<b>Total Number of Required Credits: 22.5</b>					

## CTE Core Course Descriptions

<b>Anatomy and Physiology</b>	<b>Credits: 0.5</b>
<p>In this course, the student will learn about anatomical structures and physiology of the human body. Body systems are discussed in terms of how each participates in homeostasis of the body. Students learn about selected major pathologies, including causes, symptoms, diagnostic procedures, and treatments, as well as common changes that occur through the life span. By the end of the course the student will be able to</p> <ul style="list-style-type: none"><li>• Describe the organization of the human body</li><li>• Explain the contribution that each body system makes to homeostasis of the body</li><li>• Identify the major anatomical structures and the purposes of each body system</li><li>• Explain the basic physiological processes in each of the body systems</li><li>• Describe selected human diseases in terms of definition, cause, signs and symptoms, diagnostic procedures</li><li>• Describe common issues or changes that occur in each body system throughout the lifespan</li></ul>	
<b>Business Communication</b>	<b>Credits: 0.5</b>
<p>In this course, you will explore business communication, including letters, memos, electronic communication, written reports, oral presentations, and interpersonal communication. Resumes, application letters, interviewing tips, and employment follow-up are also covered. By the end of the course, you will be able to</p> <ul style="list-style-type: none"><li>• Evaluate elements of effective business communication</li><li>• Explain barriers that can create ineffective communication</li><li>• Analyze ethical issues related to communication</li><li>• Examine how technology has impacted business communications</li><li>• Explain the importance of intercultural communication in the business setting</li><li>• Apply knowledge of effective business communication</li></ul>	
<b>Business Law</b>	<b>Credits: 0.5</b>
<p>In this course, you will explore principle areas of business law and topics such as torts, crimes, intellectual property, contracts, negotiable instruments, agency, employment, and forms of business organization. The student will learn rules of law and legal terminology, as well as legal solutions for business-related issues. By the end of the course, you will be able to</p> <ul style="list-style-type: none"><li>• Analyze the legal environment of business in the United States</li><li>• Analyze the various employment laws affecting the employer-employee relationship</li><li>• Evaluate the forms of business organization in the United States</li><li>• Analyze the ethical and social responsibility of business</li><li>• Evaluate the various types of government regulation that affect business</li><li>• Appraise the impact that international law has on global business</li></ul>	
<b>Career Explorations</b>	<b>Credits: 0.5</b>
<p>From writing an effective resume to giving the perfect interview and succeeding at a chosen career, this course introduces students to a broad scope of future career opportunities and outlines steps to ensure success. Students start planning their transition from secondary school to college and then to the workplace.</p>	

Career Exploration is designed for high school students that are ready to begin exploring the workplace and the many paths towards an interesting and fulfilling career. Career Exploration looks at the many career options available and examines the qualifications needed to reach personal career goals.

**Criminal Investigation**

**Credits: 0.5**

Microeconomics emphasizes how individuals make choices with limited resources. The student will examine concepts such as supply and demand, factors of production, roles of labor and management, the relationship between the environment and the economy, and the impact of the government on individual decision making processes. The student studies the stock market as an investment option and trace various stocks through the semester using the Wall Street Journal and the Internet as resources.

**Introduction to Criminal Justice**

**Credits: 0.5**

In this course, the student will explore law enforcement, the courts, and the correctional system. The student will study what crime is, how crime is measured, and theories of crime causation. Issues and challenges within the criminal justice system and its future directions will also be examined. By the end of the course, the student will be able to

- Examine and evaluate the justice system
- Analyze concepts related to criminal law
- Compare theories of crime
- Evaluate the impact history has had on the American justice system
- Examine issues and emerging trends in criminal justice

**Introduction to Homeland Security**

**Credits: 0.5**

In this course you will examine the elements involved in the homeland security function, as well as the challenges managers in government and industry can face while maintaining mission operations and staff accountability in the midst of multiple overlapping roles and responsibilities. The key functions of threat prevention, asset protection, crisis response, and operations recovery are addressed from a variety of perspectives. By the end of the course, you will be able to

- Compare national security policy before and after 9/11
- Describe the formation, purpose, and organization of the Department of Homeland Security
- Examine the types and effects of terrorism
- Analyze intelligence
- Describe the United States' approach to emergency management
- Describe the purpose, structure and function of the Incident Command System (ICS)
- Examine the role of various fields in preparing for and responding to emergencies

**Introduction to Law**

**Credits: 0.5**

In this course, the student will explore substantive and procedural areas of law and legal practice, such as the legal profession, courts, ethics, sources of law, and alternative dispute resolution systems. The student will analyze an application of law to factual circumstances. By the end of the course, the student will be able to

- Examine the sources of American law and the court system
- Research and draft legal documents
- Analyze and explain the trial process
- Explain criminal law and procedure
- Examine family, real estate, employment, and bankruptcy laws

**Introduction to Homeland Security****Credits: 0.5**

In this course you will examine the elements involved in the homeland security function, as well as the challenges managers in government and industry can face while maintaining mission operations and staff accountability in the midst of multiple overlapping roles and responsibilities. The key functions of threat prevention, asset protection, crisis response, and operations recovery are addressed from a variety of perspectives. By the end of the course, you will be able to

- Compare national security policy before and after 9/11
- Describe the formation, purpose, and organization of the Department of Homeland Security
- Examine the types and effects of terrorism
- Analyze intelligence
- Describe the United States' approach to emergency management
- Describe the purpose, structure and function of the Incident Command System (ICS)
- Examine the role of various fields in preparing for and responding to emergencies

**Introduction to Law****Credits: 0.5**

In this course, the student will explore substantive and procedural areas of law and legal practice, such as the legal profession, courts, ethics, sources of law, and alternative dispute resolution systems. The student will analyze an application of law to factual circumstances. By the end of the course, the student will be able to

- Examine the sources of American law and the court system
- Research and draft legal documents
- Analyze and explain the trial process
- Explain criminal law and procedure
- Examine family, real estate, employment, and bankruptcy laws

**Introduction to Medical Assisting****Credits: 0.5**

In this course, you will explore the role of the medical assistant, including professionalism, duties and responsibilities, and medical specialties. Information on medical law and ethics, office management, and compliance and regulatory issues affecting the role of the medical assistant will also be examined. By the end of the course, you will be able to

- Describe the qualities, training, education, and credentialing for the medical assistant
- Explore medical science history and practice
- Describe medical office operations
- Apply principles of medical law and legal concepts
- Describe legal and quality medical records and reporting practices
- Explain compliance and regulatory issues in the health care industry

**Introduction to Sociology****Credits: 0.5**

In this course, you will examine the sociological processes that underlie everyday life, focusing on globalization, cultural diversity, critical thinking, new technology, and the growing influence of mass media. By the end of the course, you will be able to

- Examine socialization and factors that affect socialization and social interactions
- Analyze the history of politics, globalization, and the effects of transformation
- Examine diversity in U.S. families and study trends in marriages, remarriages, and divorce

- Examine issues in education and factors that affect the educational system in the United States
- Examine urbanization, evolution of various cities, and growth in population in the United States and the world
- Examine the effects of growth and technology on social interactions and the environment

### **Medical Terminology**

**Credits: 0.5**

In this course, the student will learn medical terminology, symbols and abbreviations, and the application of this language in the field of health care. Although the student will analyze terms related to body structure and function, the main focus will be on medical vocabulary and being able to construct terms using word parts such as roots, suffixes, and prefixes. By the end of the course, the student will be able to

- Identify the fundamental word structure of medical terminology and its component parts
- Analyze medical terminology based on word structure
- Describe the organization and structure of the human body
- Build medical terminology related to body structures, functions, and disorders
- Apply knowledge of terminology related to body systems, mental health and medical specialties

### **Psychology**

**Credits: 1.0**

This is the first of two courses that comprise Psychology. This course begins with a historical review of how man has sought to explain human behavior from ancient times to today. The student will learn about the research methods that are applied to the field and how the scientific method of inquiry moved psychology from quaint parlor tricks like hypnosis and mesmerism to serious inquiry that utilizes hard science to prove theories. The student will also learn about the amazing brain and will explore the workings of the normal brain. The student will then build upon this biological foundation to learn how the information that we take in through our senses is perceived and interpreted by the brain to form the mental images of our daily experiences in the world. The course also provides a survey of a human's life span from birth to death. The student will learn about all of the major physical and psychological changes that mark the development of a human's existence and a variety of theories that outline these processes.

### **Research Methods**

**Credits: 0.5**

In this course the student will explore and apply the fundamentals of scientific research methodology by examining a social issue. The student will develop a research question, find and evaluate existing research, and design and implement an objective research method. By the end of the course, the student will be able to

- Demonstrate an understanding of the fundamentals of qualitative research
- Design an original research question to draw valid conclusions
- Gather data using an appropriate method
- Synthesize research
- Evaluate the methodology, evidence, and conclusions of others' research
- Analyze the challenges and ethical issues in social research

# Information & Media Technologies


## Career Clusters & Program Alignment

- Arts, A/V Technology & Communications –
  - o Graphic Design
- Information Technology –
  - o Computer Science


CTE Program Name	CTE Core Courses Required	Other Recommended Courses
<b>Graphic Design</b>	<b>Core Course Sequence</b> Game Design I Web Design I Intro to Graphic Design I 3D Computer Modeling (0.50) 2D Computer Design	<b>Recommended Courses</b> Calculus (for student interested in engineering design)
<b>Computer Science</b>	<b>Core Course Sequence</b> Emergent Computer Tech (0.5) Career Exploration (0.5) Intro to Computers and Info Tech (IC3) (1.0) Java Programming I/II (1.0) AP Computer Science (1.0)	<b>Recommended Courses</b> Highest math capable Chemistry and Physics

## Typical 4-Year Course Progression Plan

### Graphic Design:

 <b>NCA High School Graphic Design Interest Course Sequence</b>				
2018-2019			Updated 1/16/2018	
Subject	1st	2nd	3rd	4th
<b>English</b>	English 9	English 10	English 11	English 12
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies			
<b>Option A</b>	Algebra I	Geometry	Algebra II	Pre Calculus* or Statistics
<b>Option B</b>	Geometry	Algebra II	Pre Calculus	Calculus* or Statistics
<b>Science</b>	Below are examples of tracks you might take in your high school science studies			
<b>Option B</b>	Biology	Physical Science	Other Science	
<b>Social Studies</b>		World History	US History	American Government
<b>CTE Courses</b>	Game Design I A/B	Web Design I A / B	Intro to Graphic Design I A & I B	3D Computer Modeling & 2 D Computer Design
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5)		Personal Finance (0.5 credit)
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Art History A / B	Digital Photography I A / B	Senior Success & Career Exploration
<b>Total Number of Required Credits: 22.5</b>				
<i>* Recommend highest level math for students intersted in Engineering Design.</i>				

## Computer Science:

 <b>NCA High School Computer Science Interest Course Sequence</b>				
2018-2019			Updated 1/16/2018	
Subject	1st	2nd	3rd	4th
<b>English</b>	English 9	English 10	English 11	English 12
<b>Mathematics</b>	Below are examples of tracks you might take in your high school math studies			
<b>Option A</b>	Algebra I	Geometry	Algebra II	Pre Calculus* or Statistics
<b>Option B</b>	Geometry	Algebra II	Pre Calculus	Calculus* or Statistics
<b>Science</b>	Below are examples of tracks you might take in your high school science studies			
<b>Option B</b>	Biology	Physical Science	Other Science	
<b>Social Studies</b>		World History	US History	American Government
<b>CTE Courses</b>	Emergent Computer Technology & Career Exploration	Intro to Computers & Info Technology IC3 A/B	Java Programming I / II	AP Computer Science A/B
<b>Elective Option 1</b>	Physical Education/ Personal Fitness	Ind. Study - PE (0.5 credit) Ind. Study - PE (0.5)	Web Design I A/B (optional)	Personal Finance (0.5 credit)
<b>Elective Option 2</b>	Freshman Success (required; first semester) & Health (second semester)	Foreign Language (recommend Spanish)	Foreign Language (recommend Spanish)	Senior Success
<b>Total Number of Required Credits: 22.5</b>				
* Recommend highest level math possible.				

## CTE Course Descriptions

<b>2-D Computer Design</b>	<b>Credits: 0.5</b>
To Be Added	
<b>3-D Computer Modeling</b>	<b>Credits: 0.5</b>
<p>Are you interested in a career in technology? Are you curious about working in fields like virtual reality, video game design, marketing, television and motion pictures, or digital imaging? If so, 3-D Computer Modeling is a great place to start as it is the foundation for all these career paths. The student will gain a deeper understanding of graphic design and illustration as he uses 3-D animation software to create virtual three-dimensional design projects. Hone in on drawing, photography, and 3-D construction techniques and develop the skills needed to navigate within a 3-D digital modeling workspace. This course is an excellent introduction to careers in the fast-growing field of technology and design.</p>	
<b>AP Computer Science</b>	<b>Credits: 1.0</b>
<p>The AP® Computer Science A course is equivalent to the first semester of a college level computer science course. The course involves developing the skills to write programs or part of programs to correctly solve specific problems. AP Computer Science A also emphasizes the design issues that make programs understandable, adaptable, and when appropriate, reusable. At the same time, the development of useful computer programs and classes is used as a context for introducing other important concepts in computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, and the study of standard algorithms and typical applications. In addition, an understanding of the basic hardware and software</p>	

components of computer systems and the responsible use of these systems are integral parts of the course.

### **Career Explorations**

**Credits: 0.5**

From writing an effective resume to giving the perfect interview and succeeding at a chosen career, this course introduces students to a broad scope of future career opportunities and outlines steps to ensure success. Students start planning their transition from secondary school to college and then to the workplace.

Career Exploration is designed for high school students that are ready to begin exploring the workplace and the many paths towards an interesting and fulfilling career. Career Exploration looks at the many career options available and examines the qualifications needed to reach personal career goals.

### **Emergent Computer Technology**

**Credits: 0.5**

In this course, the student will learn the basics of building his own Web site. First, the student will become familiar with the basic concepts of Web design, including the use of Hypertext Markup Language, or HTML. The student will plan his Web site and then learn the basic language that will turn his documents into Web pages. The student will also learn how to link pages, or move from one page to another. Then the student will be introduced to more complex design techniques. He will learn how to make his site more attractive and interesting by the use of graphics, such as photos or diagrams.

### **Game Design I**

**Credits: 1.0**

This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.

#### **Course Level Objectives:**

- Describe the game design process
- Identify and describe video game software and hardware
- Compare various gaming platforms
- Identify key milestones in the history of gaming
- Apply mathematical and scientific concepts to write scripts and programs
- Apply internet safety techniques
- Create a plan for a 2D video game

### **Introduction to Graphic Design**

**Credits: 1.0**

Can people communicate without using words? Do different colors invoke different emotions? Can artists use various textures to communicate a range of ideas? Absolutely! Designed to develop an understanding and appreciation for design, the Introduction to Graphic Design A course teaches the student to interpret visual representations and to communicate his or her own ideas and information graphically. By raising the student's awareness of design, this intermediate-level course establishes a strong foundation in the basic principles of graphic design. This course, the first in a two-semester series, introduces the student to scenarios that can be solved by applying creative techniques that yield innovative and effective design solutions. Though the course is structured around computer-assisted graphic design, the student will examine other types of design as well. The student will also learn to use Inkscape, an image-editing program that is provided, and will create several design compositions using this program.

### **Introduction to Computers and Info Technology IC3**

**Credits: 1.0**



In this course, the student will gain an understanding of computing and common features of popular applications. The student will practice and apply computer skills needed in today's academic and business environments including word processing, spreadsheet, and presentation applications. Skills needed for working in an Internet or networked environment are also covered. This course prepares the student for the three Internet and Computing Core Certification (IC3) tests.

**Java Programming I / II**

**Credits: 1.0**

I - The student explores programming fundamentals, variables and assignments, conditional expressions, selection statements, loops, arrays, methods, string manipulation, program troubleshooting, and the basics of class design, object creation, and object interaction. The student will use Oracle's Java programming language throughout this course.

II - The student will learn essential object-oriented programming concepts, exception handling, recursion, generics, and important data structures in the Java Collections Framework. Advanced topics include algorithm analysis using Big *O* notation, a comparison of major sorting algorithms, and creation and traversal of a binary search tree. Lessons are accompanied by frequent programming exercises.

**Web Design**

**Credits: 1.0**

The Web Design A course has 40 lessons. The student is introduced to website design and development by learning the basic website design principles. Topics include networking, audience analysis, internet security, project management, and website navigation. Students will apply the principles to design and evaluate their own websites and the sites of others. Students will learn development languages such HTML and CSS. Throughout the course, students will complete practice activities, homework assignments and projects that allow them to apply the skills they have learned. Students learn basic website design principles and development languages such as HTML and CSS. Topics include networking, audience, analysis, Internet security, project management, and website navigation. Students utilize the programs GIMP for image editing and Nvu for web development.