COLLEGE AND CAREERS

Q^3

Career & Technology Education

Quality Education
Quality Career
Quality Future

$CTE=Q^3$

BISD

BIRDVILLE INDEPENDENT SCHOOL DISTRICT

"Career and Technology Education embraces quality instructional partnerships with business and industry to successfully prepare students to position themselves for the challenges of post-secondary education and to excel with integrity in a globally competitive workplace."

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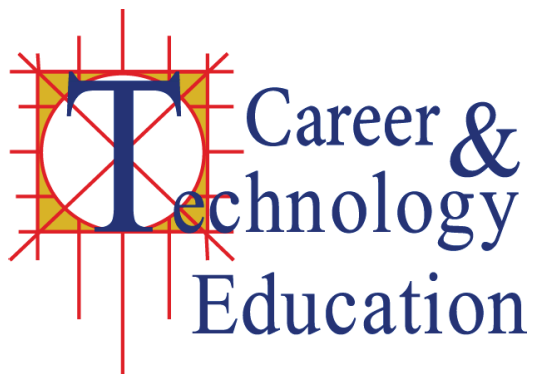
BISD

BIRDVILLE INDEPENDENT SCHOOL DISTRICT

ASSURANCE OF NONDISCRIMINATION

No student shall be denied the right to participate in any school program, education service, or activity because of the student's race, religion, color, sex, national origin, or disability. The district has designated Mr. Joe Cammarata to coordinate its efforts to comply with the nondiscrimination requirements of Title IX of the Education Amendments of 1972, as amended, and section 504 of the Rehabilitation Act of 1973, dealing with rights of students with disabilities. All complaints shall be handled through established channels and procedures beginning with the building principal, followed by appeal to the Administrative Assistant for Community, Parent and Student Concerns and finally, the Board of Trustees.

The Birdville Independent School District does not discriminate on the basis of a disability by denying access to the benefits of District services, programs or activities. To request information about the applicability of Title II of the Americans with Disabilities Act (ADA), interested persons should contact John Hughes at (817) 547-5844.

Career & Technology Education

Linda Anderson, Ph.D.
Director of
Career and Technology Education/
Principal of Birdville Center of Technology
and Advanced Learning

Introduction

Birdville Independent School District's Career and Technology Education program is nationally recognized. We credit this success to strong support by BISD's Board of Trustees and Superintendent in providing resources necessary for quality programs for BISD students.

We embrace an attitude of continuous improvement by keeping abreast of current trends in business and industry. It is through the involvement and teamwork among members of the BISD family, parents, and our business and post-secondary partners that we are able to provide relevant "real world" experiences coupled with high academic standards that greatly enhance our students' future successes. "Career and Technology Education embraces quality instructional partnerships with business and industry to successfully prepare students to position themselves for the challenges of post-secondary education and to excel with integrity in a globally competitive workplace."

We invite you to look at our high school graduation program offered to students with endorsement areas of study that follow each student's career pathway of choice that combines academic success and technical skill acquisition. We are also excited about the partnerships with business and industry that give students a chance to spend time in practicum programs as paid or unpaid interns. BISD Career and Technology Education is a great way for students to prepare for the highly technological and competitive workplace of the 21st Century.

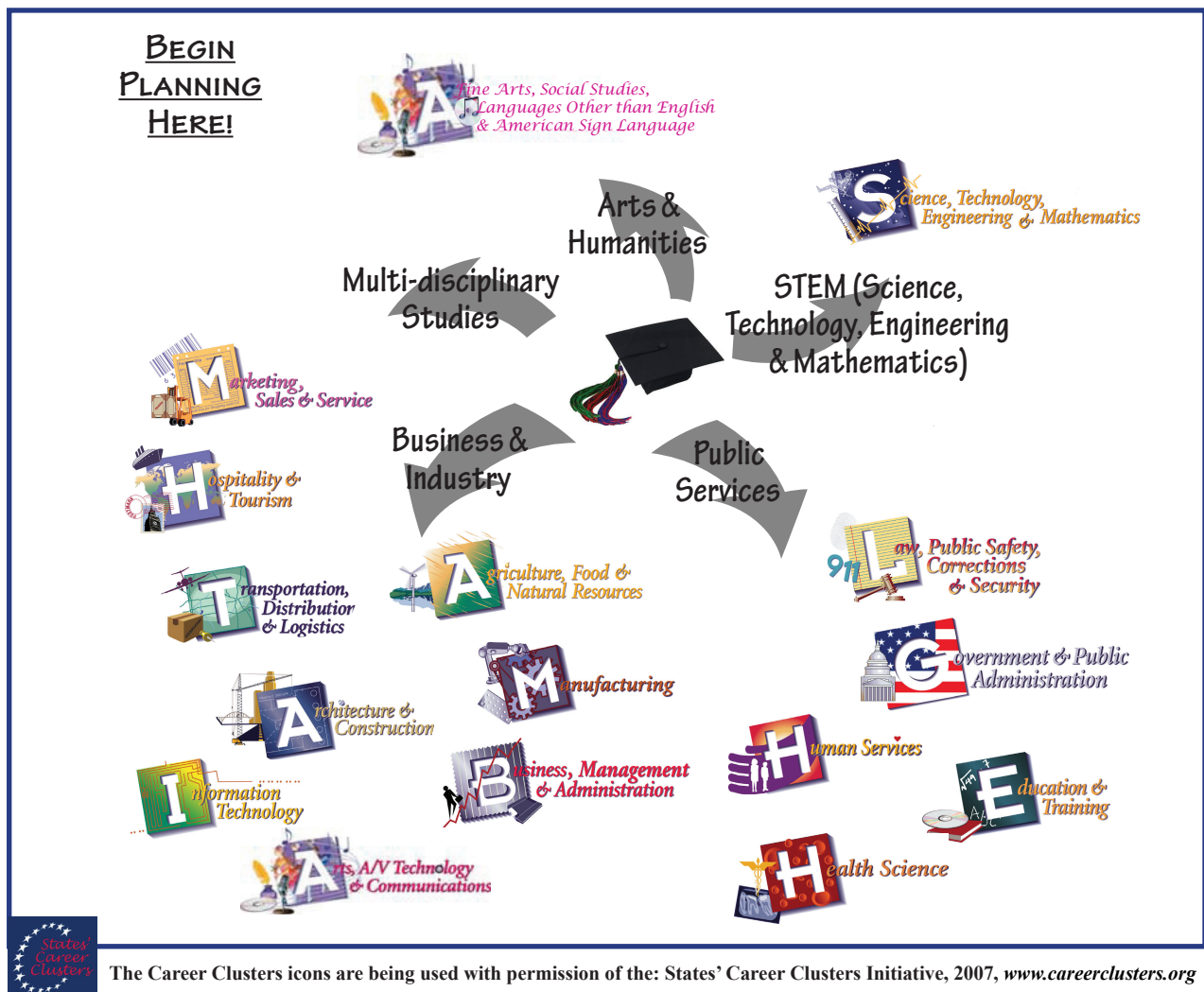## BIRDVILLE INDEPENDENT SCHOOL DISTRICT

AchieveTexas

AchieveTexas is an education initiative designed to prepare students for a lifetime of success. It allows students to achieve excellence by preparing them for secondary and postsecondary opportunities, career preparation and advancement, meaningful work, and active citizenship.

AchieveTexas is designed to help students (and their parents) make wise education choices. It is based on the belief that the curricula of the 21st century should combine rigorous academics with relevant career education. When schools integrate academic and technical education, students can see the "usefulness" of what they are learning. The system also facilitates a seamless transition from secondary to postsecondary opportunities.

Sixteen federally defined Career Clusters make up the ***States' Career Clusters*** initiative as the formulation for restructuring how schools arrange their instructional programs. ***(www.careerclusters.org)***

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The sixteeen Career Clusters provide an organizing tool for schools, small learning communities, academics and magnet schools. Programs of Study (POS) have been developed for each of the Career Clusters. The POS represent a recommended sequence of coursework based on a student's interest or career goal.

BEGIN PLANNING HERE!

Fine Arts, Social Studies, Languages Other than English & American Sign Language

Science, Technology, Engineering & Mathematics

Arts & Humanities

Multi-disciplinary Studies

STEM (Science, Technology, Engineering & Mathematics)

Marketing, Sales & Service

Business & Industry

Public Services

Hospitality & Tourism

Law, Public Safety, Corrections & Security

Transportation, Distribution & Logistics

Agriculture, Food & Natural Resources

Government & Public Administration

Architecture & Construction

Manufacturing

Human Services

Information Technology

Business, Management & Administration

Education & Training

Arts, A/V Technology & Communications

Health Science

HB5 Comparison Chart for BISD

Pre-HB5/BISD Graduation Requirements
Recommended, DAP, and Minimum Graduation Plan

(for students entering 9th grade before the 2014-2015 school year)

English (4 credits)
English I, II, III, & IV (or English I, II for Speakers of Other Languages)

Math (4 credits)
Algebra I, II, Geometry and a 4th math (for which Algebra II is a prerequisite)

Science (4 credits)
Biology, Chemistry, Physics, and an additional lab-based science course

Social Studies (4 credits)
World History, World Geography, US History, US Government/ Economics

Languages Other than English (2 credits)

Physical Ed. (1 credit)

Electives (4 credits)

Fine Arts (1 credit)

Health/Professional Communications (Speech) (.5 credit each)

Technology (1 credit)

Distinguished Achievement Program (26 credits)

Students must complete all course requirements for the Recommended Graduation Plan, take 3 years of the same language other than English, and complete a combination of 4 advanced measures.

Minimum Graduation Requirements

The BISD Board of Trustees allows dismissal from the Recommended Plan due to ARD committee decision or lack of academic success. 2 local credits will count toward graduation. **BISD requires 24 credits.**

HB5/BISD Graduation Requirements
Replaces Recommended, DAP, and Minimum Graduation Plan

(for students entering 9th grade in the 2014-2015 school year and thereafter)

English (4 credits)
English I, II, and III, and an advanced English course

Math (4 credits)
*Algebra I, Geometry, *Algebra II and an Advanced Math Course required for endorsement*

Science (4 credits)
Biology, and 2 Advanced Science courses, and any Advanced Science course required for endorsement

Social Studies (3 credits)
US History, US Gov't/Economics, World Geography or World History

Languages Other than English (2 credits)

Physical Ed. (1 credit)

Fine Arts (1 credit)

Health (.5 credit)

Professional Communications (Speech) (.5 credit)

Technology (.5 credit)

Endorsement Coursework/Electives (5.5 credits)

26 Credits Total

*If a student, in completing Algebra I and Geometry, demonstrates that he/she is unlikely to be successful in Algebra II, with parent, counselor and principal approval may substitute another appropriate course as follows: Mathematical Models with Applications; Mathematical Applications in Agriculture, Food, and Natural Resources (to be added in 2016-17); Digital Electronics; and Algebraic Reasoning (to be added in 2015-16).

Endorsements

To earn an endorsement a student must successfully complete:
- *Courses related to endorsements*

Distinguished Level of Achievement (26 credits)

To earn a distinguished level of achievement a student must successfully complete the curriculum requirements for at least one endorsement, including 4 credits in science and 4 credits in mathematics to include Algebra II.

Performance Acknowledgement

A student may earn a performance acknowledgement on their diploma and transcript for outstanding performance on any of the following:
- *Completing at least 12 hours of college academic courses including those taken for dual credit and advanced technical credit.*
- *In bilingualism and biliteracy*
- *On a college AP or IB exam*
- *On the PSAT, ACT-PLAN, SAT or ACT*
- *For earning a nationally or internationally recognized industry certification*

HB5 Endorsement Areas of Study
Course must directly relate to endorsement

STEM:
(Science, Technology, Engineering & Mathematics)
- *Science*
- *Technology*
- *Engineering*
- *Mathematics*

BUSINESS & INDUSTRY:
- *Agriculture, Food and Natural Resources*
- *Architecture and Construction*
- *Arts, A/V Technology and Communications*
- *Business, Management and Administration*
- *Finance*
- *Hospitality and Tourism (Culinary Arts)*
- *Information Technology*
- *Manufacturing*
- *Marketing, Sales and Service*
- *Transportation and Logistics (Auto Technology)*
- *Advanced Broadcast Journalism, Newspaper or Public Speaking*

PUBLIC SERVICES:
- *Education and Training*
- *Health Science*
- *Law, Public Safety, Corrections and Security*
- *Government and Public Administration*
- *Human Services*
- *JROTC*

ARTS & HUMANITIES:
- *Art*
- *Dance*
- *Music*
- *Theater*
- *Social Studies*
- *Languages other than English*
- *American Sign Language*

MULTIDISCIPLINARY STUDIES:
Allows a student to complete prescribed courses from each of the four foundation subject areas, advanced placement courses from each of the four foundation subject areas or four advanced courses from within one endorsement area or among endorsement areas not in a coherent sequence.

BIRDVILLE INDEPENDENT SCHOOL DISTRICT

Birdville Center of Technology and Advanced Learning

BISD BIRDVILLE CENTER OF TECHNOLOGY & ADVANCED LEARNING

Classes offered at BCTAL

Accounting (Dual Credit)	Culinary Arts	Law Enforcement
Advanced Animal Science	Digital Electronics	Principles of Law & Public Safety
Advanced Animation	Digital & Interactive Media	Livestock Production
Advanced Plant & Soil Science	Education & Training	Medical Microbiology
Aerospace Engineering	Emergency Medical Technician	Medical Terminology
Audio Video Production	English (Dual Credit)	Pathophysiology
Automotive Technology	Equine Science	Pharmacology
CISCO Systems	Firefighter	Practicum in Business Management
Civil Engineering &Architecture	Floral Design	Principles of Ag., Food & Natural Resources
Clinical Rotation	Forensic Science	Principles of Engineering
Computer Maintenance	Government (Dual Credit)	Pricinples of Technology (Physics)
Computer Technology	Health Science	Robotics
Construction Technology	Honors Anatomy & Physiology	Rocket Engineering
Cosmetology	Horticulture Science	Travel & Tourism
Court Systems & Practices	Hotel Management	

College and Career Readiness

Career and Technology Education fosters a culture of college and career readiness. Programs of Study *(or Personal Graduation Plans)*, career pathways, dual credit and Advanced Technical Credit (ATC), help students understand how education and training connect to the world of work.

CTE has active student organizations involved in state and national competitions. Students have the opportunity to earn industry-recognized certifications and licensures, leading to either more specialized instruction in a given field, or a leap forward on the path of postsecondary education.

Business and Industry

Journalism		Credits	Grade
HS	Journalism (Principles Arts A/V & Communications)*	1	9-12
HS	Advanced Journalism Yearbook 1 (Graphic Design & Illustration)*	1	10-12
HS	Advanced Journalism Yearbook 2 (Advanced Graphic Design & Illustration)*	1	11-12
HS	Advanced Journalism Yearbook 3 (Practicum Graphic Design & Illustration)	1	12
HS	Advanced Journalism Newspaper 1 (Graphic Design & Illustration)*	1	10-12
HS	Advanced Journalism Newspaper 2 (Advanced Graphic Design & Illustration)*	1	11-12
HS	Advanced Journalism Newspaper 3 (Practicum Graphic Design & Illustration)	1	12
HS	Photojournalism (Commercial Photography)*	1	9-12

The food, horticulture and fiber industry is the second-largest industry in Texas, generating over $73 billion a year. The Birdville Agricultural Science Center in Haltom City currently houses livestock that students raise and show. Horticulture is located centrally at BCTAL and offers students an opportunity to work with a wide variety of annual and perennial plants, as well as practice horticultural and landscape design.
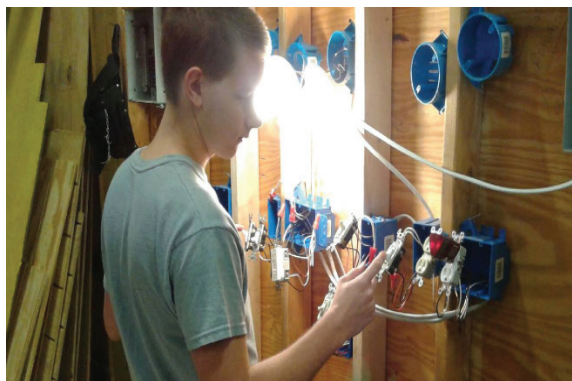
Agricultural Food and Natural Resources		Credits	Grade
BCTAL	Principles of Agriculture, Food and Natural Resources	1	9-12
BCTAL	Wildlife, Fisheries and Ecology Management	1	9-12
BCTAL	Livestock Production	1	10-12
BCTAL	Equine Science	1	10-12
BCTAL	Advanced Animal Science (Science Credit)	1	11-12
BCTAL	Floral Design (Fine Arts Credit)	1	10-12
BCTAL	Horticulture Science BLK	1	10-12
BCTAL	Advanced Plant and Soil Science (Science Credit)	1	11-12
BCTAL	Veterinarian Medical Applications	1	11-12

Business and Industry

Architecture		Credits	Grade
HS	Civil Engineering & Architecture	1	10-12
BCTAL	Construction Technology	2	9-12
BCTAL	Advanced Construction Technology 2	2-3	10-12
BCTAL	Practicum in Construction Management 3	2-3	11-12
BCTAL	Practicum in Construction Management 4	2-3	12
HS	Interior Design	1	10-12
HS	Advanced Interior Design	1	10-12

* Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Transportation, Distribution and Logistics		Credits	Grade
HS	Energy, Power and Transportation Systems	1	9-12
BCTAL	Automotive Technology	2	10-12
BCTAL	Advanced Automotive Technology	3	11-12
BCTAL	Practicum in Transportation, Distribution and Logistics	3	12
TCC	Aircraft Technology	3	11-12
TCC	Advanced Aircraft Technology	3	11-12

Location: BCTAL-Birdville Center of Technology and Advanced Learning, TCC-Tarrant County College, HS - high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Business and Industry

Birdville ISD has a state of the art Audio Video Technology program with a full production studio at the Birdville Center of Technology and Advanced Learning. The program allows students to work with industry-standard equipment and broadcast to the community on cable Channel 30. In an effort to stay in step with the industry, BISD is the ONLY high school in Texas to be shooting on 16mm film.

Arts, Audio Video Technology and Communications		Credits	Grade
HS	Graphic Design and Illustration*	1	9-12
HS	Advanced Graphic Design and Illustration*	1	10-12
HS	Animation*	1	10-12
HS	Advanced Animation*	2	11-12
HS	Fashion Design	1	10-12
HS	Fashion Design 2	1	10-12
HS	Practicum Fashion Design 1	3	11-12
HS	Practicum Fashion Design 2	3	11-12
BCTAL	Audio Video Production 1*	2	10-12
BCTAL	Advanced Video Production 2*	2	11-12
BCTAL	Practicum Video Production 3*	2	12
BCTAL	Advanced Audio Production 2*	2	10-12
BCTAL	Practicum Audio Production 3*	2	11-12
HS	Professional Communications *(Speech Credit)*	1/2	9-12

Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

BISD's Audio Video Production is a certified Apple Training Center. The Apple Training Centers serve as a resource for training for a broad range of uses: professional editors, students, faculty, business executives, digital artists, sound designers, filmmakers, webmasters and other individuals interested in digital technology. Our students join the company of Stanford, UCLA, Rutgers and film schools in New York and California.

Business and Industry

Culinary Arts begins with the fundamental principles of the art of cooking and the science of baking and includes management and production skills and techniques. Culinary Arts courses may be offered as a laboratory-based class centered around the BISTRO at the Birdville Center of Technology and Advanced Learning.

Hospitality and Tourism encompasses lodging; travel and tourism, recreation, amusements, attractions and resorts; and restaurants and food and beverage service. The hospitality and tourism industry maintains the largest national employment base in the private sector. Students use knowledge and skills that meet industry standards to function effectively in various positions within this multifaceted industry.

Hospitality and Tourism		Credits	Grade
BCTAL	Culinary Arts 1	2	10-12
BCTAL	Culinary Arts 2	2	11-12
BCTAL	Hotel Management	1	10-12
BCTAL	Restaurant Management	1	10-12
BCTAL	Travel and Tourism Management	2	10-12
BCTAL	Practicum in Hospitality and Tourism	2	12
HS	Food Science *(Science Credit)*	1	11-12

Business and Industry

2015-2016 Outstanding Business Partner
Reyna Banfill, Instructor (left center), James Gardner, Instructor (center), Dr. Allen Goben, President, Tarrant County College (right center) with Dr. Linda Anderson, CTE Director (left) and Dr. Darrell Brown, BISD Superintendent (right)

BISD has a wide variety of Business and Marketing courses that allow students to receive certification as Microsoft Office User Specialists. Birdville students also have the opportunity to train in local businesses through internships in Business Education and Marketing Education.

Internships are designed to give students supervised practical application in the world of work. These experiences occur in paid or unpaid arrangements and at a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society. These same skills enable the students to make a successful transition to the workforce or postsecondary education.

Recently BISD welcomed Unity One Credit Union to the Birdville Center of Technology and Advanced Learning. Unity One assists students with financial literacy and participates with student internships while offering financial services to the community at this new branch location. Dual Credit Accounting is another way students are able to learn accounting principles in high school while earning college credit. Students enjoy the experience and knowledge of a TCC instructor, then work with a BCTAL teacher who enhances the concepts presented. Due to the level of rigor in the course, BISD has implemented this rotation to offer support and encouragement to these accounting students.

Business and Industry

Business Management and Administration		Credits	Grade
HS	**Principles of Business, Marketing and Finance**	½	9-12
BCTAL	**Practicum in Business Management 1***	3	11-12
BCTAL	**Practicum in Business Management 2***	3	12
HS	**Business Law**	1	11-12
HS	**Business English**	1	12
HS	**Business Information Management 1***	1	9-10
HS	**Business Information Management 2***	1	10-12

Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Business and Industry

Finance		Credits	Grade
HS	Principles of Business, Marketing and Finance	$1/2$	9-12
HS	Accounting 1	1	10-12
HS	Accounting 2	1	11-12
BCTAL	Accounting 1/Accounting 2 Banking and Financial Services	2	10-12
BCTAL	Accounting 1/Accounting 2	2	11-12
HS	Statistics and Risk Management *(Mathematics Credit)*	1	10-12

Marketing		Credits	Grade
HS	Principles of Business, Marketing and Finance	$1/2$	9-10
HS	Advertising and Sales Promotion	1	10-12
HS	Marketing Dynamics	3	11-12
HS	Practicum in Marketing Dynamics	3	12
HS	Entrepreneurship	1	11-12
HS	Fashion Merchandising and Marketing	1	9-12
HS	Sports and Entertainment Marketing	1	10-12

Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

* Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.
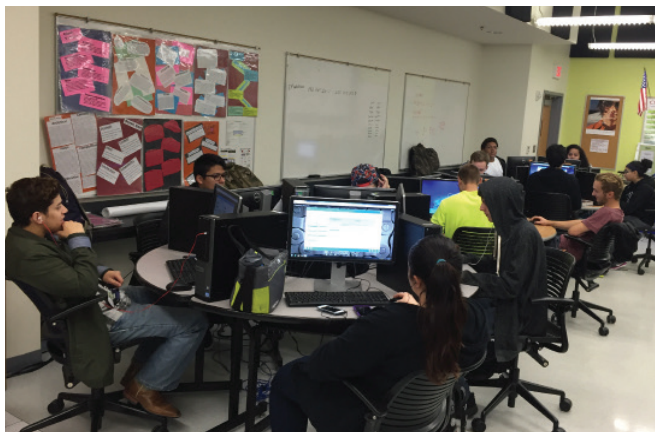
Business and Industry

Through a partnership with Cisco Systems, BISD offers Cisco Network Academy. Networking and hardware solutions are taught to prepare students to achieve the Cisco certifications. Aircraft maintenance at TCC is a dual credit program available to students interested in becoming licensed airframe and powerplant mechanics.

Information Technology		Credits	Grade
HS	**Principles of Information Technology***	½	**9-12**
HS	**Digital and Interactive Media***	1	**10-12**
HS	**Web Technologies***	1	**10-12**
BCTAL	**Computer Programming and Game Design***	2	**10-12**
BCTAL	**Game Design 2/3**	1	**11-12**
BCTAL	**CISCO Internetworking 1***	2	**10-12**
BCTAL	**CISCO Internetworking 2***	2	**10-12**
BCTAL	**Computer Maintenance***	2	**11-12**
BCTAL	**Computer Technician***	2	**12**

* Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

The Cisco® CCNA® Discovery curriculum is primarily designed for Cisco Networking Academy® students who are seeking entry-level information and communication technology (ICT) skills. CCNA Discovery provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development.

CCNA Discovery is designed for students with basic PC skills and foundational math and problem solving skills. Students are not expected to have knowledge of binary math and algorithms. The curriculum provides detailed explanations and tools such as a binary calculator.

Networking Academies are built on Cisco e-learning models enhancing the benefits of personal instruction provided by teachers in traditional classroom settings while taking advantage of media rich technologies. The Cisco Global Learning Network (GLN), uses a number of techniques to help deploy network-enhanced learning solutions.

Public Services

Education and Training		Credits	Grade
BCTAL	**Principles of Education and Training**	1	9-12
BCTAL	**Human Growth and Development**	1	10-12
BCTAL	**Instructional Practice in Education and Training**	2	11-12
BCTAL	**Practicum in Education and Training**	2	12

* Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Education and Training includes the understanding of developmental stages of children and preparation for success on the road to becoming a teacher. Students have the opportunity to observe elementary and middle schools students in classrooms and later assist teachers with class lessons. These courses provide an opportunity for
real-world experience prior to college.

Public Services

Human Services		Credits	Grade
HS	**Principles of Human Services**	**1**	**9-10**
BCTAL	**Cosmetology 1**	**3**	**11**
BCTAL	**Cosmetology 2**	**3**	**12**
HS	**Child Development**	**½**	**10-12**
HS	**Lifetime Nutrition and Wellness** *(Meets Health Grad Req.)*	**½**	**10-12**
HS	**Dollars and Sense**	**½**	**10-12**
HS	**Counseling and Mental Health**	**1**	**10-12**

The Cosmetology program provides students with all of the necessary training, hours and experience to take the state examination to become licensed cosmetologists.

Public Services

Career opportunities in the Criminal Justice field are extensive and projected as a high growth area. Students may choose the introductory course to explore career options and/or continue into the more in-depth courses. Students have the option to explore and prepare for careers ranging from emergency operators to a Supreme Court Justice.

Law, Public Safety, Corrections and Security		Credits	Grade
BCTAL	Court Systems and Practices	1	10-12
BCTAL	Prin. of Law, Public Safety, Corrections & Security	1	10-12
BCTAL	Law Enforcement 1	1	10-12
BCTAL	Law Enforcement 2	2	11-12
BCTAL	Law, Public Safety, Corrections & Security Practicum	2	11-12
BCTAL	Forensic Science *(Recommended for Grade 12)*	1	12
BCTAL	Firefighter	1	11-12

Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS - high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Government and Public Administration		Credits	Grade
HS	JROTC 1, 2, 3, 4	1	9-12

Public Services

Through a partnership with North Hills Hospital, BISD offers students interested in careers in Health Science opportunities to experience the daily procedures of a hospital. Students gain insight into real world situations by rotating through hospital departments such as: physical therapy, medical and surgical nursing, pediatrics,laboratory, radiology, respiratory therapy and surgery. Spending 6-8 hours per week in a hospital setting helps students visualize available careers, education, and skills necessary to meet their future goals.

North Hills Hospital was recognized for an instructional partnership with BISD's Health Science Technology **Clinical Rotations** program. Because of this strong partnership, students rotate through all departments at North Hills Hospital including ER, medical records, various labs and the operating room. In addition to the opportunities at North Hills Hospital, Glenview Professional Pharmacy also welcomes the Clinical Rotations students to learn more about the pharmaceutical aspects of the health profession.

Health Science		Credits	Grade
HS	**Principles of Health Science** *(Meets Health Grad. Req.)*	¹⁄₂	10-12
BCTAL	**Principles of Health Science** *(Meets Health Grad. Req.)*	¹⁄₂	10-12
HS	**Medical Terminology**	¹⁄₂	9-12
BCTAL	**Clinical Rotation 1**	2	11-12
BCTAL	**Clinical Rotation 2**	2	12
BCTAL	**Pharmacology**	3	11-12
BCTAL	**Pharmacology Clinical**	2	11-12
BCTAL	**Emergency Medical Technician (EMT)** *(CE Credit TCC)**	2	12
BCTAL	**Anatomy and Physiology/Pre-AP** *(Science Credit)*	1	10-12
HS	**Anatomy and Physiology/Pre-AP** *(Science Credit)*	1	10-12
BCTAL	**Anatomy and Physiology 1**		
BCTAL	**Anatomy and Physiology 2**		
BCTAL	**Medical Microbiology** *(Science Credit)*	¹⁄₂-1	11-12
HS/BCTAL	**Pathophysiology** *(Science Credit)*	¹⁄₂-1	11-12
HS	**Sports Medicine 1** *(Prin. of Health Science/Meets Health Grad. Req.)*	1	9-12
HS	**Sports Medicine 2** *(Health Science/Meets Health Grad. Req.)*	1	10-12
HS	**Sports Medicine 3** *(Practicum in Health Science)*	2	11-12

*CE- Continuing Education. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

STEM (Science, Technology, Engineering and Mathematics)

BISD students have the opportunity to experience various technological applications in pre-engineering courses through Project Lead The Way programs. Additionally, schools offer Robotics programs that allow students to master advanced academic skills related to robotics design and operation including the rewards of state and national competition.

Science, Engineering and Technology		Credits	Grade
BCTAL	Principles of Technology *(Physics Credit)*	1	10-12
HS	Introduction to Engineering Design (PLTW)*	1	9-12
BCTAL	Civil Engineering and Architecture	1	10-12
HHS	Engineering Mathematics *(Mathematics Credit)*	1	11-12
BCTAL	Engineering Mathematics *(Mathematics Credit)*	1	11-12
BCTAL	Principles of Engineering (PLTW)* *(Science Credit)*	1	10-12
BCTAL	Computer Integrated Manufacturing (PLTW)	1	10-12
BCTAL	Digital Electronics (PLTW)* *(Mathematics Credit)*	1	10-12
BCTAL	Aerospace Engineering (PLTW)*	1	10-12
BCTAL	Robotics and Automation 1*	2	10-12
BCTAL	Robotics and Automation 2*	2	10-12
BCTAL	Robotics and Automation 3*	2	11-12
BCTAL	Rocket Engineering 1 *(Science Credit-Scientific R&D)*	1	10-12
BCTAL	Rocket Engineering 2 *(Science Credit-Eng. Des. & Prob. Solv.)*	1	10-12
HS	Computer Science & Software Engineering - 1 Year (PLTW)	1	9-12
HS	Computer Science Applications - 2nd Year (PLTW)	1	10-12

Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS - high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

* Meets technology requirement. Location: BCTAL-Birdville Center of Technology and Advanced Learning, HS-high school campus. Unless otherwise stated, courses are offered at all high school campuses based on student enrollment.

Project Lead The Way's middle school program, Gateway to Technology, is a project based engineering program designed to challenge and engage the natural curiosity and imagination of middle schools students. PLTW alumni are studying engineering and technology in greater numbers than the national average, with a higher retention rate in college engineering, science and related programs than non-PLTW students. PLTW seeks to ignite the spark of ingenuity, creativity and imagination within all students.

By offering a cohesive pre-engineering curriculum, BISD is preparing students for a successful transition to the challenging PLTW high school coursework. At the middle school level, the program is divided into five independent, nine-week units.

Middle School

Middle school is a time for students to begin thinking about the actual coursework they will need to reach their college and career goals. Classes focused on career exploration and interest help students make informed choices going into high school. In addition to encouraging a challenging program, BISD also awards high school credit for completion of certain middle school courses. Career pathways offer ideas for possible programs of study students should consider based on their measured career interests.

Middle School Programs	High School Credits
MS College & Careers	
MS Business Information Management*	1
MS Principles of Manufacturing*	½-1
MS Principles of Information Technology*	½-1
MS Principles of Audio Video Technology & Communications*	½-1
MS Gateway to Technology (PLTW) - *1 Design, Modeling and Automation**	½
MS Gateway to Technology (PLTW) - *2 Applied Science and Technology**	½
MS Gateway to Technology (PLTW) - *3 Energy, Environment and Flight**	½
MS Gateway to Technology (PLTW) - *4 Architecture and Bio Medical**	½
MS Principles of Human Services	½-1
MS Principles of Hospitality and Tourism	½-1
MS Principles of Business, Marketing & Finance	½-1
MS Touch System Data Entry	½-1

Meets technology requirement. Course availability varies by campus.

The chief goal is for every students to choose a program of study and adjust it as he or she develops as a result of the career exploration experience.

Student Organizations

Students participating in Career and Technology Education classes have the opportunity to become involved in many different student leadership organizations and compete in skills areas in state and national levels. Students gain valuable experience in business-related competitions. In addition to competition, students participate in a variety of group activities and community service projects while developing leadership skills and building self-confidence.

Distributive Education Clubs of America (DECA) prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management in high schools and colleges around the globe.

Health Occupations Students of America (HOSA) is a student organization whose mission is to promote career opportunities in health care and to enhance the delivery of quality healthcare to all people.

SkillsUSA's mission is to help its members become world-class workers, leaders and responsible American citizens.

Future Business Leaders of America (FBLA) is a career and technical student organization that is open to students who are enrolled in a Business course. Through participation in competitive events, students may earn recognition for their business skills.

The **National Technical Honor Society (NTHS)** encourages higher scholastic achievement, cultivates a desire for personal excellence, and helps top students find success in today's competitive workplace.

Family, Career and Community Leaders of America (FCCLA) is a nonprofit national career and technical student organization for young men and women in Family and Consumer Sciences education in public and private schools through grade 12.
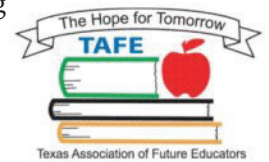
The **Technology Student Association (TSA)** fosters personal growth, leadership and opportunities in technology, innovation, design and engineering. Members apply and integrate science, technology, engineering and mathematics concepts through co-curricular activities, competitive events and related programs.

The **National Future Farmers of America (FFA)** Organization envisions a future in which all agricultural education students will discover their passion in life and build on that insight to chart the course for their education, career and personal future.

Texas Association of Future Educators (TAFE) is a statewide organization that offers students the opportunity to explore the teaching profession.

BIRDVILLE INDEPENDENT SCHOOL DISTRICT

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Career and Technology Education Department

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