

Signature Programs

The primary focus of the Paradise Valley Unified District is academic excellence. Our Signature Programs, available at all of our high schools, reflect continued commitment to this fundamental purpose.

The Signature Program, consisting of specialized and highly focused areas of study, provides a unique opportunity for our high school students to pursue academic excellence through a thematic emphasis. By offering courses which would be cost prohibitive at each individual campus and locating all students who have interest in a theme at one site, we are able to expand our curriculum significantly. Signature Program themes were selected by the staff at each high school, after careful analysis of student and parent interest.

Several factors contribute to making the Signature Program a viable and attractive curriculum option. They include:

- Themes are student-interest based. Often the excitement generated in areas of specialization carries over to all academics.
- Interest tends to breed success and success promotes self-confidence and self-worth.
- Focusing study in a specific discipline often aids in planning future educational goals.
- Students gain an advantage for either post-secondary education or employment.
- Investigations in academic areas of personal interest often have a positive influence in promoting learning as a lifetime activity.

The Signature Program provides a timely and economically sound means of meeting the emerging needs of our high school students as they move through the 21st century.

Paradise Valley
Unified School District

“Where individual excellence is our goal”

Website: www.pvschools.net

SIGNATURE PROGRAMS

Pamphlets describing each signature program and recommended courses of study are available from the counseling department and also will be distributed with registration materials. The courses available initially are listed below:

HORIZON HIGH SCHOOL

Project Lead the Way

The Engineering Signature Program at Horizon High School exposes the student to a broad range of ideas and principles common to engineering. The goal is to provide an opportunity for the student interested in an engineering career the chance to study and learn about engineering prior to entering college. The Engineering Signature Program requires a full complement of mathematics and science classes supported by a comprehensive English and social studies curriculum. The core engineering courses offered by the program allows the student to focus on a number of topics unique to the field of engineering. Students will study a variety of engineering topics including engineering design and principles. The engineering student needs to have a broad, well-rounded education with a solid background in mathematics and science. After completing the Engineering Signature Program at Horizon High School, the student will have the preparation and knowledge to succeed in a challenging college engineering curriculum.

380 INTRODUCTION TO ENGINEERING DESIGN

This is a course that teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using Autodesk Inventor modeling computer design software. The course covers the role of an engineer, design process, product design, designing as an engineer and product analysis, and improvement.

381 PRINCIPLES OF ENGINEERING

This is a course that helps students understand the field of engineering and engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change. Prerequisite(s) may be required.

Law-Related Education

Legal issues pervade every level of American society and affect the very fabric of life. It is crucial that an active, involved American citizen in the 21st century have a working knowledge of the law. Law-related education provides students with the ability to develop a working knowledge of legal concepts and an opportunity to explore legal careers. The program objectives are:

1. To challenge students to explore careers within the legal arena.
2. To raise awareness of the impact of law on the day-to-day operations of American social life.
3. To heighten the appreciation for the American legal system through personal responsibility and individual rights.

828 CRIMINAL AND CIVIL LAW

This course is designed to provide a practical understanding of law and the legal system that will be of use to students in their everyday lives. It will improve understanding of the fundamental principles and values underlying our Constitution, laws and legal system. The course will promote awareness of current issues and controversies relating to law and the legal system. Simulations and guest speakers will provide opportunities for understanding the real-life applications of law.

875 LAW-RELATED

This introduction course is designed to cover the organization and jurisdiction of local, state and federal law enforcement, judicial procedures and correctional systems. It will improve understanding of the fundamental principles and values underlying our Constitution. The course will cover, from a historical perspective, the current issues and controversies relating to law and our legal system. Actual court cases will be studied and the precedents discussed. Mock trials and guest speakers will give students the opportunity to use and understand the application of law.

SIGNATURE PROGRAMS

HORIZON HIGH SCHOOL

(cont'd)

876 SPORTS LAW

This course will introduce students to the principles of law as applied to the arena of sports; students develop an understanding of sports law as applied through classroom activities. The need to have and abide by rules and contracts in sports are parallel to the general need for rule of law. The course will be taught through relevant case studies, examples, hypothetical and real-life situations, mock trials and guest speakers.

878 LAW ENFORCEMENT

This course will introduce students to career exploration in the law enforcement field. Topics will include: family relations, traffic enforcement, operation and procedures, investigation techniques, court procedures, verbal/written communications, and public relations. A number of contacts with real-life law enforcement professionals will enhance the coursework studied.

Recommended Mathematics Courses

423	Geometry	or	424	Honors Geometry
428	Algebra 3-4	or	429	Honors Algebra 3-4
435	Pre-Calculus	or	436	Honors Pre-Calculus
442	AP Calculus AB	or	441	AP Calculus BC
445	AP Statistics			
460	Introduction to Computer Science			
462	AP Computer Science A			
464	AP Computer Science AB			

Recommended Science Courses

712	Biology	or	713	Honors Biology
722	Honors Chemistry	or	723	AP Chemistry
731	Physics	or	732	Honors Physics
733	AP Physics			

SIGNATURE PROGRAMS

PARADISE VALLEY HIGH SCHOOL

Biotechnology

Biotechnology includes the careers and services which use scientific manipulation of living organisms, especially at the molecular genetic level. Students in the Biotechnology Program are provided a greater opportunity to pursue an interest in science and health-related fields, to explore its information and applications and to develop skills important to the emerging careers in biotechnology.

The program offers course work in two clusters of career interest including medical careers and agriscience. Courses in the Biotechnology Program are open to all students who meet the prerequisites of the course. Students in the program must complete at least six credits in the Biotechnology Signature Program courses, complete a personal portfolio of their accomplishments and progress, and complete one work experience course in order to receive a program certificate.

Courses currently in the science section

713	Honors Biology	9	10	11	12
740	Anatomy and Physiology			11	12
750	Health Care Science		10	11	
751	Health Care Pathways			11	12
752	Health Care Assistant (HCA)				12

706 AP ENVIRONMENTAL SCIENCE

Topics to be studied include evolution, speciation, biodiversity, interaction within ecosystems, and a wide variety of environmental problems including pollution, uncontrolled population growth, and landscape alteration by humans. Prerequisite(s) may be required.

707 HONORS MARINE BIOLOGY

This is an advanced course in biology focusing on the geology, physics, and chemistry of oceans, marine ecosystems, invertebrate and vertebrate sea life, marine ecology, human influences on marine environments, ocean mining, ocean exploration, and laws regarding the sea. Prerequisite(s) may be required.

713 HONORS BIOLOGY

This course is designed for academically motivated students. Individual and/or group projects are required. Additional areas not included in the standard course are explored. Students may expect an average of two days per week in laboratory experiences. Ninth graders must have the middle school's recommendation and be enrolled in advanced level freshman classes. Prerequisite(s) may be required.

745 INTRODUCTION TO AGRISCIENCE

This course will survey current skills necessary in today's agricultural science industry. Areas to be studied are biotechnology, leadership, financial record keeping, horticulture, hydroponics, aquaculture, mechanics, and entomology. Students will design and manage their own agricultural experience projects, which will allow for individualized and career exploration. This course will provide hands-on experience in the greenhouse, nursery, biotech lab and aquaculture facilities. Not currently recognized as a lab science by Arizona universities.

Course Fee: \$20

746 AGRISCIENCE - AQUACULTURE

This course will acquaint students with the field of aquaculture focusing on the production of food fish in re-circulating systems. The course will include available careers, species identification, water quality management, fish diseases, system construction, feeding and basic fish biology. Students will receive extensive hands-on experience with re-circulating system fish tanks and fish culturing. This course is accepted as ½ integrated lab science toward Arizona universities entry requirements.

Prerequisite(s) may be required.

Course Fee: \$20

748 AGRISCIENCE-LANDSCAPE

This course will acquaint students with the field of landscaping including design, maintenance and installation. Students will gain hands-on experience in the areas of plan identification, plant selection, equipment maintenance, landscape evaluation, hardscape installation, irrigation design and installation. Students will gain experience with design techniques to provide functional and attractive landscapes. Some of these classes may count toward dual enrolled credit. Instructors who are qualified will present the opportunity for dual enrolled credit. This course is accepted as ½ integrated lab science toward Arizona universities entry requirements.

Prerequisite(s) may be required.

Course Fee: \$20

Star Tech

SIGNATURE PROGRAMS

PARADISE VALLEY HIGH SCHOOL

(cont'd)

750 HEALTH CARE SCIENCE

Students become knowledgeable about careers in human health services, animal science technology, diagnostic technology, rehabilitation services, administration and patient care. They study basic medical terminology, concepts of health and disease, socio-economics of health care, basic emergency first-aid, interpersonal skills, human anatomy and physiology. Students receive one credit for science or one for CTE. Currently recognized as an integrated lab science by Arizona universities. This class is for 10th and 11th graders.

751 HEALTH CARE PATHWAYS

This course is for students interested in careers in the health service industry. Students study medical terminology, applied anatomy and physiology, nutrition, standard precautions and blood borne pathogen standards, ethical-legal issues, interpersonal skills and patient care skills. Students develop leadership and community service skills through participation in a career/technical student organization. Students gain clinical experience through a variety of clinical assignments in community hospitals, dental, medical, and veterinarian offices. Students receive one credit for science or one for CTE. Not currently recognized as a lab science by Arizona universities.
Course Fee: \$20 plus uniform required

752 HEALTH CARE ASSISTANT (HCA)

Students receive academic and technical preparation for an entry-level career. Curriculums offered include Dental Assisting, Medical Assisting, Nurse Assisting and Veterinary Assisting. The Nurse Assisting curriculum is approved by the Arizona State Board of Nursing. Upon completion of the Nurse Assisting curriculum, students are eligible to take the certification exam. Students can receive 10 hours of community college credit at Gateway Community College through dual enrollment. Students develop leadership and community service skills through participation in a career/technical student organization. Students receive one credit for science or two credits for CTE. Not currently recognized as a lab science by Arizona universities.
Course Fee: \$20 plus uniform required

761 SCI-TECH

Science and Technology provides the background and skills necessary to enter and succeed in the Biotechnology Signature Program. Principles of chemistry, biology, earth science and physics taught via consistent use of the scientific method and laboratory skills. Course work is lab oriented offering opportunities in problem solving, and critical thinking.

762 TQM INTERNSHIP

The management skills of Total Quality Management (TQM) are explored. The skills and information gained during the Biotechnology Signature Program are put into a marketable package for further education and/or employment. A "shadowing" experience with a person in the biotechnology field allows the student to put this information to use in the world of work.
Prerequisite(s) may be required.

763 HONORS MOLECULAR BIOLOGY

Students with a further interest in biology use advanced laboratory procedures in the investigation and handling of microorganisms and genetic technology. Emphasis is placed on research and laboratory activities in the class. Reading and lab reports outside of class are expected.
Prerequisite(s) may be required.

764 BIOTECHNOLOGY 1-2

Concepts, processes, techniques and current issues concerning genetically-modified plant products will be covered in biotechnology. Students will learn chemistry processes and techniques, and cell biology needed to understand and conduct laboratories in the area of biotechnology. DNA extraction, fingerprinting and transformation are included in the curriculum. Basic lab operating skills are included. Laboratory activities emphasize aseptic technique, culture methodology, laboratory equipment and plant organization, record keeping and micro propagation system development. Leadership opportunities are provided through FFA. Not currently recognized as a lab science by Arizona universities.
Prerequisite(s) may be required.
Course Fee: \$20

765 BIOTECHNOLOGY 3-4

Students will focus on a specific research topic of their choice in the area of medical, environmental or agricultural biotechnology. Students will follow the scientific method to develop and conduct an experiment. Emphasis will be placed on laboratory notebooks and collection of data. Leadership opportunities are provided through FFA. Not currently recognized as a lab science by Arizona universities.
Prerequisite(s) may be required.
Course Fee: \$20

SIGNATURE PROGRAMS

PARADISE VALLEY HIGH SCHOOL

(cont'd)

772 ABS BIOLOGY

This survey course covers the general spectrum of biology with an emphasis on agricultural sciences. It includes laboratory procedures and investigations. An average of three days per week will be devoted to lab work. Students may be expected to complete one or more projects per quarter. This course counts as one biology lab credit toward Arizona universities entry requirements. Not an NCAA approved core course.

773 AGRISCIENCE-GREENHOUSE & NURSERY MANAGEMENT

This course will acquaint students with the field of production horticulture including hydroponics vegetable production and landscape plant propagation. Students will receive extensive hands-on experience in the greenhouse and nursery, planting, growing and pruning plants. Students will maintain the greenhouse and nursery structures to deliver optimum light, temperature, ventilation, humidity and irrigation. This course is accepted as ½ integrated lab science toward Arizona universities entry requirements. Instructors who are qualified will present the opportunity for dual enrolled credit.

Prerequisite(s) may be required.

Course Fee: \$20

Star Tech

SIGNATURE PROGRAMS

Recommended Biotechnology Sequence of Courses

	<u>Honors Health Careers</u>	<u>Health Careers</u>	<u>Investigative</u>	<u>Honors Agriscience</u>	<u>Agriscience</u>
Freshman	Honors Biology #713	SciTech #761	SciTech #761	Honors Biology #713 Introduction to Agriscience #745	SciTech #761 *Introduction to Agriscience #745
Sophomore	Honors Chemistry #722 Health Care Science #750	Biology #712 Health Care Science #750	Biology #712 or ABS Biology #772	Honors Chemistry #722 Agriscience- Greenhouse & Nursery Mgmt. #773	ABS Biology #772
Junior	Health Care Pathways #751	Health Care Pathways #751 Chemistry #721 or Intro to Chemistry #720 Anatomy & Physiology #740	Biotechnology 1-2 #764 Chemistry #721	Agriscience- Aquaculture #746	*Agriscience Greenhouse & Nursery Mgmt. #773 Chemistry #721 or Intro to Chemistry #720
Senior	*Health Care Assistant (HCA) #752	*Health Care Assistant (HCA) #752	Biotechnology 3-4 #765	*Agriscience- Landscape #748 Honors Marine Biology #707	Agriscience- Aquaculture #746 *Agriscience- Landscape #748

*Designates a dual enrollment course where the student can earn college credit in addition to high school credit

Questions please contact Becky Laidig -Health Careers 602-867-5554 or rlaidig@pvschools.net
 April White -Agriscience/Biotechnology Coordinator 602-867-5480 or awhite@pvschools.net

SIGNATURE PROGRAMS

PARADISE VALLEY HIGH SCHOOL

(cont'd)

Business Management Program

The business management program is designed to prepare students for successful employment in the business world. The program is comprised of four classes: Introduction To Business, School Store, Computers, and Co-Op. Within these classes, as well as the career and technical education classes, there are five programs of study: computer systems maintenance, middle management, retail management, organizational leadership, and owning and operating your own business.

Students enrolled in this program will have the opportunity to earn credit at a local community college through dual enrollment. Our Business Services classes are directly linked to the following degree programs from the community college: General Business, International Business, Retail Management, and Small Business Management. The goal of the program is to provide students with employable business skills they can use before and after graduation, as well as an academic experience that will support their pursuit of education beyond high school. In addition, students will work toward attaining an AA degree through concurrent/dual enrollment at the community college.

SIGNATURE PROGRAMS

PVHS Business Management

Possible Sequence of Courses

	<u>E-Commerce</u>	<u>Graphic Design</u>	<u>Drafting & Design</u>
Freshman / Sophomore	Introduction to Business #025	Graphic Design 1-2 #325	Drafting 1-2 #303
	Computer Applications and Projects 1-2 #054	Computer Applications and Projects 1-2 #054	Computer Applications and Projects 1-2 #054
Sophomore /Junior	Retail/School Store #052	Photography 1-2 #627	CAD/D 1-2 #366
	Entrepreneurship/ Marketing 1-2 #061	Photography 3-4 #628	*CAD/D 3-4 #369
	Computer Applications and Projects 1-2 #054	*Graphic Design 3-4 #326	*Architectural D/D 1-2 #313
Junior / Senior	Retail/School Store #052	Photography 5-6 #636	*Engineering D/D 1-2 #314
	Entrepreneurship/ Marketing 3-4 #063	Photography 7-8 #638	*Architectural D/D 1-2 #313
		*Graphic Design 7-8 #367	*Civil Engineering Drafting 1-2 #311
Senior	*Business Internship / Co-op #071/072	*Business Internship / Co-op #071/072	*Business Internship / Co-op #071/072

*Designates a dual enrollment course where the students can earn college credit in addition to high school credit.

SIGNATURE PROGRAMS

PINNACLE HIGH SCHOOL

Community Outreach Program

Pinnacle High School is committed to being an active member of the surrounding community. As such there will be an umbrella signature program known as Community Outreach which will include all of the "School to Work Experiences" including teacher academy, child development, our vocational/business integrated curricular approach as well as traditional community service opportunities for students. The thematic concept of Community Outreach enables students to select one area for emphasis and several of the elective classes and clubs which would support them in that endeavor. The classes will be designed to teach students to take the responsibility for providing attention and service to their surrounding school community.

The objectives will be as follows:

1. Students will gain an appreciation for giving their personal time and attention to various community agencies.
2. Students will gain an understanding of the skills, concepts and attitudes necessary to be a contributor to the larger school community.
3. Students will be given a hands-on opportunity to experience service from a student perspective as well as a provider perspective.

RELATED COURSES

025	Introduction to Business
052	Retailing/School Store
054	Computer Applications and Projects 1-2
061	Entrepreneurship/Marketing 1-2
063	Entrepreneurship/Marketing 3-4
071	Business Internship COOP
072	Business Internship COOP
141	Newspaper Production
255	Culinary Arts 1-2
256	Culinary Arts 3-4
257	Culinary Arts 5-6
278	Teacher Academy
279	Education Practicum
325	Graphic Design 1-2
326	Graphic Design 3-4
350	Graphic Design 5-6
627	Photography 1-2
628	Photography 3-4
835	Psychology-Human Mind
836	Psychology-Understanding Self

SIGNATURE PROGRAMS

SHADOW MOUNTAIN HIGH SCHOOL

Design/Industrial Technology

The Design/ Industrial Technology program is intended to develop student's skills in a variety of design-related areas in graphic communications that will help prepare them for industry. Students, from beginning levels to advanced, will explore areas of graphics, design and presentation technologies, from concept development to production. In the program students will have the opportunity to experience a variety of related topics and technologies and explore their relationship to business, personal, and community applications. This program is intended for those students who wish to advance their skills as well as continue in this area after high school. Students will be prepared to choose a field in the area of design technology suited to their interests and strengths.

1. Students will develop skills in conceptualization and carry them through the developmental stages toward output, presentation and production.
2. Students will explore current technologies to familiarize themselves with available tools as well as the issues addressed in their fields.
3. Students will use technologies such as; computers, other input and output hardware and a variety of software to produce their ideas and designs for presentation and review.
4. Students will be challenged to develop an awareness and understanding of the concepts needed for advancement in a design-related field following high school, whether in business or higher learning.
5. Students will develop a foundation that will allow them to progress through the program and should prepare them to move on to further academic pursuits in their selected fields.

REQUIRED COURSES

- 325** Graphic Design 1-2
326 Graphic Design 3-4
303 Drafting 1-2 (Intro to Design Technology 1-2)
305 Design Technology-Architectural 3-4
308 Design Technology-Mechanical 3-4

RELATED COURSES

- 627** Photography 1-2
628 Photography 3-4
636 Photography 5-6
638 Photography 7-8
631 Television Production 1-2
632 Television Production 3-4
633 Television Production 3-4
635 Television Production 3-4
350 Graphic Design 5-6
367 Graphic Design 7-8
306 Design Technology-Architectural/Mechanical 5-6
307 Design Technology-Architectural 7-8
327 Design Technology-Mechanical 7-8
277 Gen YES

ROTC Program

The purpose of this program is to acquaint secondary school students with the aerospace age, to develop informed citizens to provide practice of effective leadership techniques, to promote an understanding of the democratic process, to promote an understanding of the national command structure, to promote discipline, to acquire a knowledge of military drill and ceremonies, and to motivate an interest in the Air Force.

In accomplishing this mission, the AFJROTC program is designed to meet the following objectives:

1. Develop a more responsible U.S. citizen by teaching the civil, industrial, and military components of aerospace.
2. Encourage a high degree of personal honor, responsibility, self-reliance, and self-confidence.
3. Develop a respect for constituted authority, and a high degree of self-discipline.
4. Develop leadership and follower-ship skills.
5. Promote an interest in the Air Force.

880 AEROSPACE SCIENCE I/AFJROTC 1-2

This course is an introduction to aerospace education and leadership. Cadets gain a basic knowledge of the origins and development of today's expanding aerospace world. This two-part course, chronicle of the American military history in relation to air power and fundamentals of leadership, should prove to be a valuable experience for each student.

881 AEROSPACE II/AFJROTC 3-4

This course is an introduction to aviation science and the physical laws involved and includes aerospace environments, the human body's reaction to flight, the theory of flight, and air navigation. The elements of leadership will also be taught with emphasis on communication skills, time management, and cadet corps activities.

882 AEROSPACE SCIENCE III/AFJROTC 5-6

This course includes development of propulsion systems used in aircraft, the fundamentals of rocketry, and the principles of space travel. Students will also assume leadership positions in the cadet corps as officers and noncommissioned officers.

883 AEROSPACE SCIENCE IV/AFJROTC 7-8

This course includes civil aviation's primary features and its impact on society. A review of available careers will be conducted and students will learn about modern aerospace vehicles. Cadets must demonstrate success as senior officers or noncommissioned officers. Prerequisite(s) may be required.

SIGNATURE PROGRAMS

SHADOW MOUNTAIN HIGH SCHOOL

(cont'd)

885 AFJROTC COLORGUARD/DRILL TEAM

This course includes leadership skills and features an emphasis on drill and ceremonies required for local/state competitions. A significant portion of this class will be involved with enhancing marching skills and learning the intricate movements necessary to be competitive at drill meets. Cadets must demonstrate the physical ability for sustained marching. This class may be repeated for credit. Prerequisite(s) may be required.

Shadow Mountain Signature Program Course of Study

Design/Industrial Technology

Air Force Junior ROTC

<u>Grade</u>	<u>Graphics</u>	<u>Design Tech. Arch. or Mech.</u>	<u>TV Production</u>	<u>Photography</u>		<u>Grade</u>	<u>AFJROTC</u>
9/10	Graphic Design 1-2	Intro to Design Technology 1-2	TV Prod. 1-2	Photo 1-2		9/10	AFJROTC 1-2 Drill Team
10/11	Graphic Design 1-2 Graphic Design 3-4	Design Tech.- Architectural 3-4 or Mechanical 3-4 Drafting 1-2	TV Prod. 1-2 TV Prod. 3-4	Photo 1-2 Photo 3-4		10/11	AFJROTC 3-4 Drill team
11/12	Graphic Design 5-6 Computer Animation (Star Tech)	Design Tech.- Architectural 5-6 or Mechanical 5-6 or CAD 1-2 Star Tech CAD 3-4 Star Tech	TV Prod. 3-4 TV Prod. 5-6	Photo 3-4 Photo 5-6		11/12	AFJROTC 5-6 Drill Team
12	Graphic Design 7-8 Computer Animation (Star Tech) ICE (Ind. Coop. Ed.) Graphics/Photo ICE OJT	Design Tech.- Architectural 7-8 or Mechanical 7-8 ICE (Ind. Coop. Ed.) Draft/Design ICE OJT	TV Prod. 7-8 Gen YES ICE (Ind. Coop. Ed.) TV Prod. ICE OJT	Photo 7-8 Gen YES ICE (Ind. Coop. Ed.) Graphics/Photo ICE OJT		12	AFJROTC 7-8 Drill Team

