

CAREER AND TECHNICAL EDUCATION

From the Office of College and Career Readiness

801 N. 11th Street

St. Louis, MO 63101

www.slps.org/ccr

314-345-4531

*Available Pathway
Programs*

Pathway Information Sheets

Office of College
and Career
Readiness

801 N. 11th Street
St. Louis, MO
63101

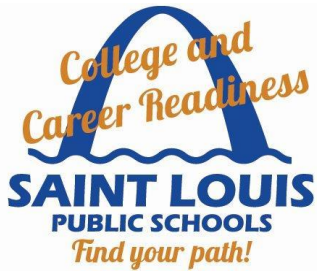
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2016-2017

Available Pathway Programs

Our Mission: To prepare students for a wide-range of careers by offering programs that incorporate rigorous academics, college and career readiness curriculum, and learning opportunities. Our goal is to help students obtain critical workforce skills such as problem solving, communication, and teamwork to ensure career and college success for all students.



CAREER AND TECHNICAL EDUCATION

2016 - 2017

Available Pathway Programs

Accounting	Gateway STEM; Vashon
Advanced Microsoft Apps	Carnahan; Gateway; McKinley; Roosevelt; Soldan; Sumner; Vashon
Aviation Maintenance	Gateway STEM
Business Management	Clyde C. Miller; Gateway STEM; Soldan
Computer Networking	Clyde C. Miller
Computer Science	Metro
Construction Trades	Beaumont; Roosevelt
Cosmetology	Beaumont
Culinary Arts	Beaumont; Clyde C. Miller
Database Management	Clyde C. Miller
Electricity / Electronics	Clyde C. Miller
Early Childhood Care	Roosevelt
Firefighting / EMT	Gateway STEM
Hospitality & Tourism	Clyde C. Miller
Health Occupations (CNA)	Beaumont; Clyde C. Miller; Gateway STEM
Law Enforcement	Northwest Academy of Law
PLTW - Engineering	Gateway STEM
PLTW - Biomedical Science	Carnahan; Collegiate School of Medicine and BioScience
Pre-Veterinary Science	Gateway STEM
Manufacturing Engineering	Clyde C. Miller
Marketing	Gateway STEM
Multimedia Technology	Central Visual and Performing Arts; Clyde C. Miller; Sumner
Rehabilitation Therapy	Clyde C. Miller; Gateway STEM
Respiratory Therapy	Beaumont
Robotics	McKinley; Gateway STEM
TV Production	Carnahan; Roosevelt



Accounting

This course is designed to build a basic understanding of manual accounting principles, concepts and procedures. Activities include: using the accounting equation, completing the accounting cycle, entering transactions to journals, posting to ledgers, preparing end-of-period statements and reports, managing payroll systems, completing banking activities, calculating taxes, and performing other related tasks.

Entrance Recommendations

Must be in the 11th or 12th grade

Pre-requisite: Introduction to Business

Class Requirements

Accounting Technical Skills Attainment Testing

Employment Outlook

Employment of accountants and auditors is projected to grow 11 percent from 2014 to 2024. The median annual wage for accountants and auditors was \$67,190 in May 2015.

Pathway Courses

- Accounting 1
- Accounting 2

Certifications / Credentials

- Technical Skills Attainment Certificate

Post-Secondary Credit

- Dual Credit Agreement –
- St. Louis Community College
- Articulation Agreement –
- St. Louis Community College

Employment Opportunities

- Bookkeeper
- Accounting Auditor
- Financial Analyst
- Post-Secondary Teacher

Student Organization(s)

- FBLA - Future Business Leaders of America

Off-Campus Programs

- Externships – Y



Advanced Microsoft Applications

If you want to improve your Microsoft skill levels, then this is the class for you! During this two-year program, students may receive certification in Microsoft Word, Excel, Access, and PowerPoint. These certifications can be a powerful instrument for students entering post-secondary education and for real-world applications.

Entrance Recommendations

Pre-requisite: Introduction to Business

Recommended GPA: 2.0 or higher

11th and 12th Grade

Class Requirements

Upon completion of each software application in Microsoft Office students will be required to take a Microsoft Specialist certification exam.

Employment Outlook

Employment of computer support specialists is projected to grow 12 percent from 2014 to 2024. The median annual wage for computer support specialists was \$51,470 in May 2015.

Pathway Courses

- MS Certification Prep 1
- MS Certification Prep 2

Certifications / Credentials

- Microsoft Office Specialist Certification in:
 1. MS Word
 2. MS Excel
 3. MS Access
 4. MS PowerPoint

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Office Administrator
- IT Support Technician
- General Office Clerk

Student Organization(s)

- FBLA – Future Business Leaders of America

Off-Campus Programs

- Externships – Y



Aviation Maintenance

Aviation maintenance includes a wide range of work duties performed on various kinds of aircraft, including helicopters. Aircraft mechanics and technicians diagnose, adjust, repair or overhaul aircraft engines and assemblies including hydraulic and pneumatic systems. The airframe curriculum covers repairs, maintenance, inspection and alterations of the airframe structure, landing gear systems, hydraulic and pneumatic systems and other non-engine/p propulsion systems.

Entrance Recommendations

Competency in mathematics, physics, and electricity

Class Requirements

The Federal Aviation Administration (FAA) certifies aviation maintenance technician schools and graduates of these schools are allowed to take the written, oral and practical tests for an Airframe and Power Plant (A&P) license issued by the FAA.

Employment Outlook

Employment of aircraft/avionics equipment mechanics and technicians is projected to show little change from 2014 to 2024. Job prospects will be best for those who hold an Airframe and Power Plant (A&P) certificate.

Pathway Courses

- Airframe 1 & 2
- Aviation Maintenance 1 & 2
- Power Plant Technology 1 & 2

Certifications / Credentials

- Airframe and Power Plant (A&P) license after graduation

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College

Employment Opportunities

- Airframe Mechanic
- Heavy Vehicle Technician
- Mechanical Engineer

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Job Shadowing – Y



Business Management

This pathway encourages the development of leadership skills, business structures and operations, business etiquette, ethical business practices, office procedures, time management, multi-tasking, critical thinking and problem solving skills. Students also learn the importance of technology in the business world and how technology is used in Business, Management and Administration.

Entrance Recommendations

Pre-requisite: Introduction to Business
Recommended GPA: 2.5 or higher
90% Attendance is recommended

Class Requirements

Assessment of Skills and Knowledge (ASK) for Business
FBLA membership
Internship participation

Employment Outlook

Employment of administrative services managers is projected to grow 8 percent from 2014 to 2024. The median annual wage for administrative services managers was \$86,110 in May 2015.

Pathway Courses

- Business Management Theory
- Business Management Advanced Topics
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate
- ASK Certification for Business

Employment Opportunities

- Operations Manager
- Human Resource Specialist
- Production Manager
- Office Manager

Student Organization(s)

- FBLA – Future Business Leaders of America

Off-Campus Programs

- Internships – Y
- Externships – Y
- Job Shadowing – Y
- Conferences – Y
- Competitions - Y



Computer Networking

This course provides students the opportunity to become familiar with installations, configurations, administration, standards, practices and components of computer networks and the repair of computers. Students will develop problem solving skills and relevant skills necessary to function in today's information technology workplace. Seniors will participate in an internship to give students an opportunity to use skills learned in a work place connected to previous classroom learning.

Entrance Recommendations

Must be in the 11th or 12th grade
GPA Recommendation: 2.5 or greater

Class Requirements

Networking Technical Skills Attainment Test

Employment Outlook

Employment of network and computer systems administrators is projected to grow 8 percent from 2014 to 2024. The median annual wage for network and computer systems administrators was \$77,810 in May 2015.

Pathway Courses

- Introduction to Computer Networking
- Advanced Computer Networking
- Internship

Certifications / Credentials

- Technical Skills Attainment Certification
- TestOut PC Pro
- TestOut Network Pro

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Articulation Agreement – St. Louis Community College
- Dual Enrollment – Ranken Technical College

Employment Opportunities

- Field Technician
- Computer Repair Specialist
- Network Systems Administrator

Student Organization(s)

- Skills USA

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Computer Science

This pathway is for a student who is interested in the pursuit of computer programming/coding, information systems & technology engineering. Computer science is the study of the theory, design, implementation, and performance of computer software and computer systems including the study of computability and computation itself.

Entrance Recommendations

Pre-requisite: Introduction to Business
11th and 12th grade

The willingness to get frustrated and keep working through that frustration is desirable.

Class Requirements

Prior computer classes are helpful, but not required.

Employment Outlook

Employment of computer programmers is projected to decline 8 percent from 2014 to 2024. The median annual wage for computer programmers was \$79,530 in May 2015.

Pathway Courses

- Computer Science 1
- Computer Science 2

Certifications / Credentials

- Technical Skills Attainment Certificate

Employment Opportunities

- Computer Programmer
- Network System Administrator
- Computer System Analyst
- Software Developer

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Job Shadowing – Y



Construction Trades

This pathway introduces students to seventeen core construction trade competencies for varying general labor employment within the construction field. Courses include instruction in blueprint reading and application; communication and interpersonal skills, safety and OSHA requirements; computer technology and construction mathematic calculation. Each student has the opportunity to experience hands-on work experience in each of the fields.

Entrance Recommendations

Recommended Courses: Geometry and Algebra
Desire to work in a construction related industry

Class Requirements

Steel-toe safety work boots and hard hat
Carpenter's pants and long sleeve button up work shirt

Employment Outlook

Employment of general maintenance and repair workers is projected to grow 6 percent from 2014 to 2024. The median annual wage for general maintenance and repair workers was \$36,630 in May 2015.

Pathway Courses

- Construction Trades Theory, Practice & Skills Development
- Construction Trades Advanced Topics
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate
- OSHA-10 hr. Certification

Post-Secondary Credit

- Dual Enrollment Agreement – Ranken Technical College

Employment Opportunities

- General Maintenance Worker
- Carpenter
- Construction Manager

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Cosmetology

The Cosmetology pathway provides students the opportunity to develop life skills, knowledge, and leadership skills in a hands-on salon atmosphere. Students explore sanitation, hair styling, manicuring, shampooing and the principles of hair cutting. This is a two year program in which students accumulate clock hours towards State licensure.

Entrance Requirements

Completion of the 10th grade with at least 10 credits
Complete a program and state licensing application

Class Requirements

\$25.00 State licensing fee
High school transcript
Birth certificate and Social security card
Two 2x2 pictures taken within the last 5 years
95% Attendance Required

Employment Outlook

Employment of barbers, hairdressers, and cosmetologists is projected to grow 10 percent from 2014 to 2024. The median hourly wage for barbers, hairdressers, and cosmetologists was \$11.40 in May 2015.

Pathway Courses

- Cosmetology 1 & 2
- Cosmetology 3 & 4

Certifications / Credentials

- Technical Skills Attainment Certificate
- Missouri Cosmetology License

Employment Opportunities

- Hair Stylist
- Manicurist
- Beauty Consultant
- Entrepreneur

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Job Shadowing – Y



Culinary Arts

During this two-year program in the Culinary Arts, students will receive professional chef's training preparing them for the real world of work in the restaurant, resort, and other food service industries. Safety and sanitation, food prep and stylish cooking techniques will be a part of this program/pathway. Instructors are certified chefs and culinary experts offering their services and expertise in the training of our SLPS students.

Entrance Requirements

11th and 12th grade

Recommended GPA: 2.0 or higher

90% Attendance is required

Class Requirements

Hepatitis A Shot; Tuberculosis (TB) Test

Black pants and Non-skid chef shoes

\$15.00 SkillsUSA membership dues

Employment Outlook

Employment of chefs and head cooks is projected to grow 9 percent from 2014 to 2024. The median annual wage for chefs and head cooks was \$41,500 in May 2015.

Pathway Courses

- Culinary Arts 1 & 2
- Culinary Arts 3 & 4
- Internship

Certifications / Credentials

- ServSafe Food Handler's Certification
- Technical Skills Attainment Certificate

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Executive Chef
- Dietary Manager
- Restaurant Owner

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Competitions – Y
- Job Shadowing – Y



Database Management

The Database Management pathway is a two year program that provides professional Information Technology training preparing students for the real world of work. Opportunities include building databases, working with Microsoft Excel and Access, and using visual coding methods to develop websites.

Entrance Recommendations

11th and 12th grade

GPA Recommendation: 2.5 or higher

90% attendance rate expected

Class Requirements

\$15.00 FBLA yearly membership dues

Flash drive

Journaling notebook

Employment Outlook

Employment of database administrators is projected to grow 11 percent from 2014 to 2024. The median annual wage for database administrators was \$81,710 in May 2015.

Pathway Courses

- Database Management 1 & 2
- Database Management 3 & 4
- Internship

Certifications / Credentials

- Certified Internet Web Professional (CIW) – Site Development Associate Certification
- Technical Skills Attainment Certificate

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Dual Enrollment Agreement – Ranken Technical College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

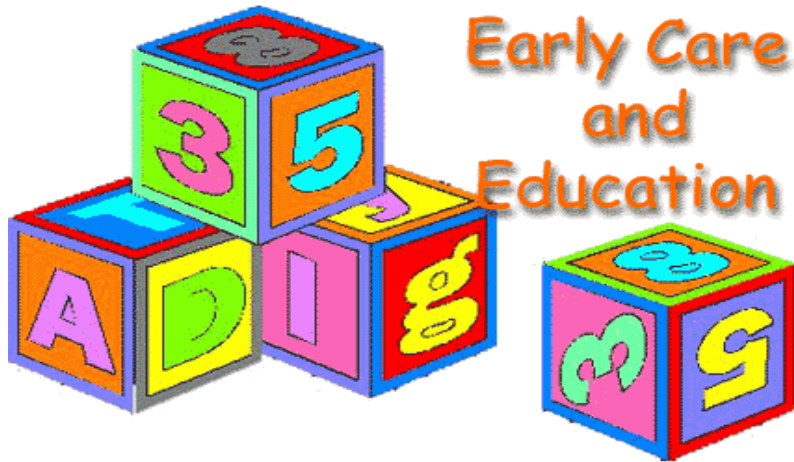
- Database Administrator
- Software Engineer
- Web Developer

Student Organization(s)

- FBLA – Future Business Leaders of America

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Early Childhood Care

Do you love to work with children?

The Early Childhood Care pathway provides students with the knowledge and skills needed to work in the child care field immediately after high school – while preparing them to attend college for a degree in child development, education, psychology, social work or other majors. Students can work with simulated manikins, shadow child care workers, and complete an internship working with children in a school, agency or business setting.

Entrance Requirements

This is a three year program: 10th, 11th, and 12th grades

Class Requirements

Family Care Safety Registration (\$13)
First Aid Training
CPR Course

Employment Outlook

Employment of preschool and childcare center directors is projected to grow 7 percent from 2014 to 2024. The median annual wage for preschool and childcare center directors was \$45,670 in May 2015.

Pathway Courses

- Human Development
- Child Development I
- Child Development II
- Internship

Certifications / Credentials

- Cardiopulmonary Resuscitation (CPR) Certification
- Technical Skills Attainment Certificate

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College

Employment Opportunities

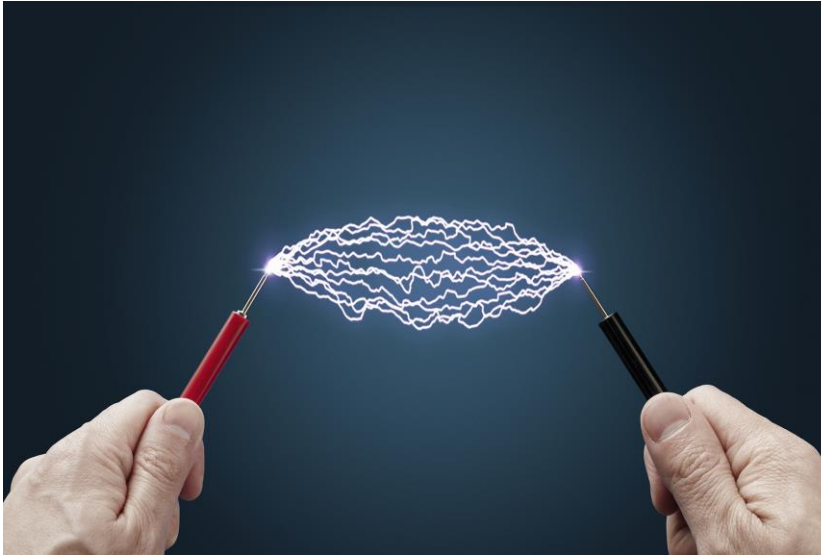
- Childcare Worker
- Pre-school Teacher
- Child Care Center Director

Student Organization(s)

- FCCLA – Family, Career, and Community Leaders of America

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Electricity/Electronics

The Electricity / Electronics program familiarizes students with the common methods used to manage control, and monitor electrical systems. Students will be able to effectively interpret and read schematics containing electrical and electronic components. This pathway prepares students for entry level positions and/or entry into advanced level courses in a technical college.

Entrance Recommendations

11th and 12th grade

Recommended GPA: 2.0 or higher

90% Attendance is required

Class Requirements

Flame resistant shirt, pants and/or coveralls

Insulated pliers

Employment Outlook

Employment of electricians is projected to grow 14 percent from 2014 to 2024. The median annual wage for electricians was \$51,880 in May 2015.

Pathway Courses

- Electronics / Electricity 1 & 2
- Electronics / Electricity 3 & 4
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate

Employment Opportunities

- Installers / Repairers
- Line Installers
- Electrical Engineering Technicians

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Externships – Y
- Job Shadowing – Y



Fire Fighter / EMT

The Fire & EMT Academy at Gateway STEM High School prepares and certifies selected Juniors and Seniors for careers in Emergency Medical Services and Fire Fighting (Public Safety). Upon successful completion of the Academy, students will be certified Fire Fighter/EMTs in the State of Missouri.

Entrance Recommendations

High School Juniors (11th grade) with good attendance and at least a 2.0 GPA may sign up for the Introduction to Public Safety survey class. Successful completion of the survey class will make you eligible to apply for the Fire & EMT Academy in the Senior (12th grade) year.

Class Requirements

Students are required to purchase Fire & EMT Academy uniforms and pay for their certification testing. Textbooks, training materials, firefighting gear and medical supplies are available for the students during the class.

Employment Outlook

Employment of firefighters is projected to grow 5 percent from 2014 to 2024. The median annual wage for firefighters was \$46,870 in May 2015.

Pathway Courses

- Introduction to Public Safety
- Emergency Medical Technician
- Fire Fighter 1 & 2

Certifications / Credentials

- FEMA ICS 100, 200, 700, 800
- Community Emergency Response Team training
- Hazardous Materials Awareness and Operations
- EMT
- Fire Fighter 1 & 2

Post-Secondary Credit

- Dual Credit Agreement - St. Louis Community College
- Articulation Agreements - St. Louis Community College
Frederick Community College

Employment Opportunities

- Fire Fighter
- Emergency Medical Tech
- Paramedic
- Fire Investigator

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships - Y
- Job Shadowing - Y



Health Occupations

The Certified Nurse Assistant course is for students interested in pursuing a career in health care. The course prepares students to provide basic patient care under the supervision of a licensed professional nurse. Students complete real-world learning through job shadowing. Students will develop entry level skills to provide comfort, care and preventative treatment to individuals requiring healthcare.

Entrance Recommendations

GPA Recommendation: 2.5 or higher
Recommendation from three teachers
90% Daily Attendance Expected
Recommended Course: Health Careers Exploration

Class Requirements

Immunizations (\$25-\$50); Family Care Safety Registration (\$13); Uniform and Equipment (\$25-\$50); State Registration (\$20); State Certification Examination

Employment Outlook

Employment of nursing assistants and orderlies is projected to grow 17 percent from 2014 to 2024. The median annual wage for nursing assistants and orderlies was \$25,710 in May 2015.

Pathway Courses

- Medical Terminology
- Patient Care Practicum - 1
- Patient Care Practicum – 2
- Internship

Certifications / Credentials

- Certified Nurse Assistant
- Basic Life Support for Health Care Providers (CPR)

Post-Secondary Credit

- Dual Credit Agreement –
St. Louis Community College
- Articulation Agreement –
St. Louis Community College

Employment Opportunities

- CNA - Nursing Home & Rehab Centers
- CNA - Adult Day Care Centers
- CNA - Home Health Agencies

Student Organization(s)

- HOSA – Future Health Professionals
- Skills USA

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Hospitality/Tourism

Hospitality encompasses the vast industry in the travel/tourism, lodging, recreation, food/beverage and convention/meeting planning business. This pathway addresses the management skills and knowledge needed in one of the world's fastest growing industries. Students in this program explore classes which focus on management skills, leadership, customer service, guest relations and interpersonal skills.

Entrance Recommendations

Must be in the 11th or 12th grade
Recommended GPA: 2.5 or higher
90% daily attendance expected

Class Requirements

Hepatitis A Shot
Black pants and black (non-skid) shoes
\$15.00 SkillsUSA yearly membership dues

Employment Outlook

Employment of meeting, convention, and event planners is projected to grow 10 percent from 2014 to 2024. The median annual wage for meeting, convention, and event planners was \$46,840 in May 2015.

Pathway Courses

- Introduction to Human Services
- Hospitality/Food & Beverage Management
- Internship

Certifications / Credentials

- ServSafe – Professional Food Handlers Certificate
- Technical Skills Attainment Certificate

Post-Secondary Credit

- Dual Credit Agreements – St. Louis Community College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Travel Agent
- Hotel Resort Manager
- Event / Convention Planner

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Externships – Y
- Job Shadowing – Y



Law Enforcement

The program is designed for 11th and 12th grade students interested in career occupations in law enforcement and investigative careers. The program emphasizes the criminal justice system and role of securing the safety of society. Students will receive an in-depth analysis of the American legal system and forensic evidence procedures and practices with emphasis on internships and classroom academic didactics.

Entrance Recommendations

Prerequisite: Criminal Justice

Class Requirements

Law Enforcement/Criminal Justice TSA Assessment

Employment Outlook

Between 2012 and 2022 job growth will average roughly 12% per year for all protection services, law enforcement and criminal justice occupations.

Pathway Courses

- Criminal Justice
- Law Enforcement & Forensics 1&2
- Law Enforcement & Forensics 3&4
- Internship

Certifications / Credentials

- Technical Skills Attainment (TSA) Certificate

Post-Secondary Credit

- Dual Credit Agreements-
St. Louis Community College
- Articulation Agreements-
St. Louis Community College

Employment Opportunities

- Police and Detectives
- Lawyer
- Forensic Scientist
- Paralegal/Legal Assistant

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Externships – Y
- Job Shadowing – Y



Manufacturing Engineering

This pathway is designed to build a strong foundation in the field of automated manufacturing. Students will be provided extensive hands-on experience with Computer Numerically Controlled (CNC) lathes and mills, as well as robots, Computer Integrated Manufacturing (CIM) and welding processes.

Entrance Recommendations

Recommended GPA: 2.5 or higher

Recommended Courses: Geometry and Algebra

90% Daily attendance expected

Class Requirements

Engineering Notebook

Flash Drive

Employment Outlook

Employment of machinists and tool and die makers is projected to grow 6 percent from 2014 to 2024. The median annual wage for machinists and tool and die makers was \$42,110 in May 2015.

Pathway Courses

- Manufacturing Engineering 1&2
- Manufacturing Engineering 3&4
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate
- OSHA 10-Hr. General Safety
- NIMS Certification - in 2017/2018

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Dual Enrollment Agreement - Ranken Technical College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Machinist
- Manufacturing Technician
- Manufacturing Engineer

Student Organization(s)

- SkillsUSA
- First Robotics
- TSA – Technology Student Assoc.

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Marketing

This pathway is for students who are preparing for a career in the field of marketing and/or management. Instruction will prepare students to perform one or more of the marketing functions: selling, buying, pricing, promoting, market research, management and an orientation to the American free enterprise system. The program utilizes DECA and the Marketing education internship to support classroom instruction.

Entrance Recommendations

Pre-requisite: Introduction to Business
Recommended GPA: 2.0 or higher
90% Attendance is recommended

Class Requirements

Assessment of Skills and Knowledge (ASK) for Marketing
DECA membership
Internship Participation

Employment Outlook

Employment of market research analysts is projected to grow 19 percent from 2014 to 2024. The median annual wage for market research analysts was \$62,150 in May 2015.

Pathway Courses

- Fundamentals of Marketing
- Advanced Marketing
- Supervised Marketing Education Experience/Intern

Certifications / Credentials

- Technical Skills Attainment Certificate
- ASK Certification for Fundamentals Marketing Concepts

Employment Opportunities

- Marketing Manager
- Sales Manager
- Entrepreneur
- Market Research Analyst

Student Organization(s)

- DECA

Off-Campus Programs

- Internships – Y
- Conferences – Y
- Job Shadowing – Y



Multimedia

This pathway is designed for students interested in developing skills in computer-based Digital-multimedia techniques. It includes an overview of desktop publishing, computer graphics, digital imaging, Web design photography, 2D and 3D animation, audio and, video technology, html techniques and gaming. Students will also develop advanced work in animation, video editing, production and postproduction techniques.

Entrance Recommendations

Must be in the 11th and 12th grade. Successful completion of Introduction to Business is recommended. Student must earn a 'B' Grade at the Intro level in order to qualify for the Advanced class.

Class Requirements

Students must successfully pass the Technical Skills Assessment and demonstrate basic knowledge of multimedia content authoring with an emphasis on graphic design, animation, video editing, production and postproduction techniques.

Employment Outlook

Employment of multimedia designers and animators is projected to grow 6 percent from 2014 to 2024, about as fast as the average for all occupations.

Pathway Courses

- Introduction to Digital Multimedia/ Videography
- Advanced Digital Multimedia/Videography
- Internship

Post-Secondary Credit

- Dual Credit Agreements- St. Louis Community College
- Articulation Agreements- St. Louis Community College

Employment Opportunities

- Multimedia Designer
- Web Designer
- Animator
- Game Designer

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Project Lead the Way - Biomedical Sciences

Through a sequence of courses that include Human Body Systems and Biomedical Innovation, PLTW Biomedical Science students grades 9-12 tackle challenges and step into roles of medical investigators, surgeons, microbiologists, geneticists, and biomedical engineers. They explore realistic situations like investigating the death of a fictional person and analyzing prevention, diagnosis, and treatment of disease.

Entrance Recommendations

9th Grade

Class Requirements

Maintain a Biomedical Science Journal

Take PLTW end of course (EOC) test to receive credit

Employment Outlook

Employment of medical scientists is projected to grow 8 percent from 2014 to 2024, about as fast as the average for all occupations.

Pathway Courses

- PLTW Principles of Biomedical Science
- PLTW Human Body Systems
- PLTW Medical Interventions
- PLTW Biomedical Innovation

Post-Secondary Credit

- Dual Credit Agreements-St. Louis Community College
- Articulation Agreements-St. Louis Community College

Employment Opportunities

- Biomedical Scientist
- Forensic Scientist
- Microbiologist
- Healthcare Scientist

Student Organization(s)

- HOSA - Health Occupations Students of America

Off-Campus Programs

- Internships-Y
- Externships – Y
- Job Shadowing – Y



Project Lead the Way Engineering

Project Lead the Way (PLTW) Pathway to Engineering (PTE) is a four-year high school sequence taught in conjunction with traditional math and science courses. PTE's courses, including Digital Electronics and Civil Engineering/Architecture, provide students with in-depth, hands-on knowledge of engineering and technology-based careers.

Entrance Recommendations

GPA Recommendation: 3.0 or higher in math & science
Enrolled in Algebra and Physics

Class Requirements

Maintain an Engineering Notebook
Take PLTW end of course (EOC) test to receive credit

Employment Outlook

Employment of electrical and electronics engineers is projected to show little or no change from 2014 to 2024. The median annual wage for electrical and electronics engineers was \$95,230 in May 2015.

Employment of civil engineers is projected to grow 8 percent from 2014 to 2024. The median annual wage for civil engineers was \$82,220 in May 2015.

Pathway Courses

- PLTW Introduction to Engineering Design (IED)
- PLTW Principles of Engineering (POE)
- PLTW Digital Electronics (DE)
- PLTW Civil Engineering & Architecture (CEA)
- PLTW Engineering Design & Development (EDD)

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Electrical Engineer
- Civil Engineer
- Mechanical Engineer

Student Organization(s)

- SkillsUSA
- TSA – Technology Student Assoc.
- First Robotics

Off-Campus Programs

- Externships – Y
- Job Shadowing – Y



Pre-Veterinary Science

This pathway provides an introduction into the exciting field of Animal Health Care and Management, which can prepare students for a wide array of careers working with animals. Students should have a passion for animal health and providing a key service to their community by maintain healthy animal populations.

Entrance Recommendations

90% daily attendance expected

Recommended Courses: Advanced Biology and/or
Anatomy/Physiology

Class Requirements

Royal blue scrubs

Closed toe, non-slip shoes

Employment Outlook

Employment of veterinary technologists and technicians is projected to grow 19 percent from 2014 to 2024. The median annual wage for veterinary technologists and technicians was \$31,800 in May 2015.

Pathway Courses

- Pre-Veterinary Science Theory, Practice & Skills Development
- Pre-Veterinary Science Advanced Topics
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate

Post-Secondary Credit

- Articulation Agreement – St. Petersburg College of Veterinary Technology

Employment Opportunities

- Veterinary Technician
- Shelter Manager
- Dog Groomer

Student Organization(s)

- FFA - Future Farmers of America

Off-Campus Programs

- Internships – Y



Rehab Therapy

The Rehabilitation Therapy/ Sports Medicine pathway provides instruction in those clinical skills needed for entry level employment in the rehabilitation therapy area. This course will also include extensive study in the area of Sports Medicine and personal training. Students who qualify in terms of knowledge, skills and attitude, will be placed in an off-campus internship with one of several cooperating health care institutions.

Entrance Recommendations

11th and 12th Grade

Recommended GPA: 2.5 or higher

Recommended Courses: Algebra, Chemistry, and /or Anatomy/Physiology

Class Requirements

Students must successfully pass the NOCTI test and demonstrate basic knowledge of health assisting.

Employment Outlook

Employment of physical therapist assistants and aides is projected to grow 40 percent from 2014 to 2024. The median annual wage for physical therapist assistants and aides was \$42,980 in May 2015.

Pathway Courses

- Health Careers Exploration
- Rehabilitation Therapy 1 & 2
- Internship

Certifications / Credentials

- Cardiopulmonary Resuscitation (CPR) Certification
- Technical Skills Attainment Certificate
- NCSF Certified Personal Trainer

Post-Secondary Credit

- Dual Credit Agreement – St. Louis Community College
- Articulation Agreement – St. Louis Community College

Employment Opportunities

- Physical Therapist Assistant
- Physical Therapist
- Athletic Trainer

Student Organization(s)

- HOSA – Future Health Professionals
- SkillsUSA

Off-Campus Programs

- Internships – Y



Respiratory Therapy

This pathway introduces students to core health care competencies for respiratory therapy. The course includes instruction in respiratory therapy and education program options; communication and interpersonal skills; legal and ethical responsibilities of health care professionals; computer technology and mathematic calculations; diseases and wellness; respiratory therapy equipment, safety and procedures, and infection control.

Entrance Recommendations

Must be in the 11th or 12th grade
GPA Recommendation: 2.5 or higher
Recommended Courses: Algebra, Biology, and/or Anatomy/Physiology.

Class Requirements

Hospital Uniform; Tennis Shoes; Wrist Watch

Employment Outlook

Employment of respiratory therapists is projected to grow 12 percent from 2014 to 2024. The median annual wage for respiratory therapists was \$57,790 in May 2015.

Pathway Courses

- Respiratory Therapy Theory, Practice and Skills Development
- Advanced Respiratory Therapy
- Internship

Certifications / Credentials

- Cardiopulmonary Resuscitation (CPR) Certification
- Technical Skills Attainment Certificate

Employment Opportunities

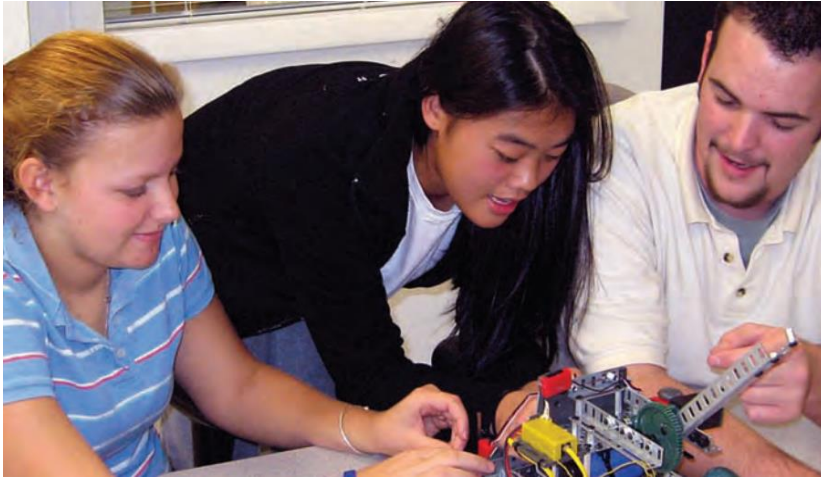
- Home Health Aide
- Certified Respiratory Therapist (CRT)
- Registered Respiratory Therapist (RRT)

Student Organization(s)

- HOSA – Future Health Professionals

Off-Campus Programs

- Internships – Y
- Job Shadowing – Y



Robotics

This pathway introduces students to robots and robotics. It will also introduce students to the many pieces that make up robots both for instruction and competition through student organizations. Students will build a solid foundation in robotics by: building and programming their own robot; gaining hands-on knowledge about physics, technology, engineering and math while using their robot; and completing a capstone project that challenges the student to solve a real life problem.

Entrance Requirements

Successful completion of Algebra 150

Class Requirements

Must keep an Engineering notebook

Employment Outlook

Employment of mechanical engineers is projected to grow 5 percent from 2014 to 2024. The median annual wage for mechanical engineers was \$83,590 in May 2015.

Pathway Courses

- Robotics 1 & 2
- Robotics 3 & 4

Certifications / Credentials

- Technical Skills Attainment Certificate

Employment Opportunities

- Electrical Engineer
- Mechanical Engineer
- Electro-mechanical Technicians

Student Organization(s)

- SkillsUSA
- First Robotics
- TSA – Technology Student Assoc.

Off-Campus Programs

- Competitions – Y



Television Production

This pathway involves advanced TV production techniques (studio and field production) lighting techniques, set design, and advanced editing. Students will write and produce individual projects, video yearbooks, and videotapes of activities/performances throughout the school year. Advanced students will be responsible for post-production activities, such as editing, of a weekly TV program.

Entrance Recommendations

11th and 12th grade

Recommended GPA: 2.0 or higher

Class Requirements

Students must successfully pass the NOCTI test and demonstrate a basic knowledge of television pre-production, production and post-production skills.

Employment Outlook

Employment of broadcast and sound engineering technicians is projected to grow 7 percent from 2014 to 2024. The median annual wage for broadcast and sound engineering technicians was \$41,780 in May 2015.

Pathway Courses

- Television 1 & 2
- Television 3 & 4
- Advanced Major TV 1 & 2
- Internship

Certifications / Credentials

- Technical Skills Attainment Certificate

Employment Opportunities

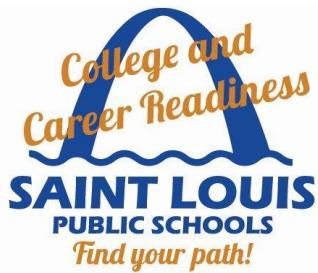
- Video Director
- Recording Engineer
- Lighting Engineer
- Broadcast Technicians

Student Organization(s)

- SkillsUSA

Off-Campus Programs

- Internships – Y
- Externships – Y
- Job Shadowing – Y



CAREER AND TECHNICAL EDUCATION

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Chief Academic Officer

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Superintendent of Schools

Special Thanks:

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