Fall 2018

Saturdays!

Join your friends and make new ones while you explore the exciting worlds of SCIENCE, TECHNOLOGY, ENGINEERING & MATH!

Open to all Southeast Michigan Students!

REGISTER ONLINE: www.dapcep.org

For more info: (313)831-3050 • info@dapcep.org
**TABLE OF CONTENTS**

WHAT IS DAPCEP? ................................................. 1
EXPLORERS MODULES ........................................... 2
PATHFINDERS MODULES ....................................... 2
PROGRAM LOCATIONS ........................................ 10
BUS DEPOT INFORMATION ................................... 11
FINANCIAL AID .................................................. 12

---

**About Explorers**

**TUITION:** $100.00 per student

**DATES (8 Saturdays):**
September 22 - November 10, 2018

**LOCATION:**
University YES Academy
14669 Curtis Dr., Detroit 48235

**ABOUT:** Explorers create projects & interact with Smart Board touch technology. Modules: Astronomy, Biology, Hydrology, Earth & Natural Sciences, Physics, and Chemical, Electrical, & Mechanical Engineering! All modules use Math & Technology.

---

**About Pathfinders**

**TUITION:** *Financial Aid available. FREE with $25 Application Fee

*Application fee is non-refundable.

**DATES (6 Saturdays):**
October 6 - November 10, 2018

**LOCATIONS INCLUDE:**
- Oakland University
- University of Detroit Mercy
- University of Michigan
- Wayne State University

*Bus transportation available

**ABOUT:** Pathfinders discover their passion and career aspirations through intensive and fun learning experiences in professional environments. Modules include: computer programming, video game design, animal welfare, aerospace engineering, robotics, and more!
WHAT IS DAPCEP?

We are a nonprofit organization with over 40 years of experience partnering with universities, training programs, and K-12 school systems in order to connect youth to the best science, technology, engineering, and math (STEM) educational experiences in Michigan.

DAPCEP students are between the ages of 4 and 18, and live in southeast Michigan. They attend public, private, charter, and home schools and love to explore new environments and make life-long friends.

During the spring and fall, thousands of students in Grades Pre-K-12 participate in dozens of different learning modules on university, corporate, and community campuses. Each learning module consists of a series of consecutive Saturdays (8 for Explorers, 6 for Pathfinders), ensuring students have the time to deeply explore the module subject, as well as forge lasting friendships.

When summer rolls around, students in Grades 3-12 enjoy week-long camps and experience college life!

We have a large and supportive parent & alumni community that strives to provide our youth with even more resources and opportunities. We hope you’ll consider joining the DAPCEP family!
**Explorers Program**

*University YES Academy*

Curious young students explore the scientific world in DAPCEP’s premier early childhood program. The focus of this session is mathematics! Students will gain hands-on experience with operations of numbers, algebraic thinking, geometry and spatial sense, measurement, data analysis, and logical reasoning through the exploration of “critters” large and small!

**DAPCEP BUS TRANSPORTATION NOT OFFERED FOR THIS COURSE.**

**Cost:** $100  
**Teacher:** Janiece Powell  
**Dates:** September 22 - November 10  
**Session One:** 9am - 11am  
**Session Two:** 11:30am - 1:30pm

---

**Pathfinders**

**4th Grade**

**Forensic Crime Stoppers**

*University of Detroit Mercy*

Solve a crime by exploring different systems of the human body through hands-on investigations. Gather evidence to determine which suspect is the criminal as you learn about issues related to health and nutrition. A parent or guardian is required to attend and participate in at least two sessions.

**DAPCEP BUS TRANSPORTATION NOT OFFERED FOR 4th GRADE STUDENTS.**

**Cost:** $25  
**Teacher:** U of D Mercy Staff  
**Dates:** October 6 - November 10  
**Times:** 8:30am - 11:30am

---

**5th Grade**

**Glider Challenge 3D**

*University of Detroit Mercy*

This program involves students in hands-on exploration of aerodynamics. Students will build a 3D flying glider, airplanes, and rockets as they investigate the principles of air resistance, air pressure, and flight. Students will use these principles to design their own flying apparatus. During the last week of the program, students will test their designs in a flight competition. A parent or guardian is required to attend and participate in at least two sessions.

**DAPCEP BUS TRANSPORTATION NOT OFFERED FOR THIS COURSE.**

**Cost:** $25  
**Teacher:** U of D Mercy Staff  
**Dates:** October 6 - November 10  
**Times:** 8:30am - 11:30am
6th GRADE

PRE ENGINEERING MATH (Part 1)
Wayne State University
Students will explore various mathematics topics through hands-on activities. Pre-Engineering Math is a course intended to provide students with a basic working knowledge of algebraic ideas and geometry. To be eligible for a certificate students must complete all classroom and homework assignments, and must take the pre and post-test.

COST: $25       TEACHER: WSU Staff
DATES: October 6 - November 10       TIMES: 9am - 12pm

7th GRADE

INTERMEDIATE MATH
Wayne State University
This course will deal with concepts in linear equations and graphing techniques. Topics covered: basic math review, sets and real numbers, variables, variable expressions (i.e. equations with one and two variables), Cartesian Coordinate System, ordered pairs, graphing and Linear Functions (y=mx+b).

COST: $25       TEACHER: WSU Staff
DATES: October 6 - November 10       TIMES: 9am - 12pm

7th thru 8th GRADE

BEGINNERS GUIDE TO 2D COMPUTER GAME DESIGN
University of Michigan Dearborn
This project-based course will introduce students to the fundamentals of computer game design through the development of their own web-based computer game using Construct2. Computer programming concepts will be introduced in the course through the use of Construct2’s visual programming editor and behavior-based logic. This combination of active learning and visual scripting make the course ideal for a wide-range of students and math abilities.

COST: $25       TEACHER: U of M Dearborn Staff
DATES: October 6 - November 10       TIMES: 9am - 12pm

CODING APP GAMES WITH JAVA SCRIPT
AccelerateKID - 32640 Concord Dr., Madison Heights, MI 48071
Students will develop an understanding of JavaScript using the Bitsbox application. Students will storyboard, design and develop apps, learn to debug and present their final projects. They will create their own game as a final project, which can be run on android or apple devices.
DAPCEP BUS TRANSPORTATION NOT OFFERED FOR THIS CLASS.

COST: $25       TEACHER: Thanh Tran
DATES: October 6 - November 10       TIMES: 9am - 12pm
CITIZEN SCIENCE AT THE ZOO  
*Detroit Zoological Society*  
Do you love science? Would you like to contribute to science? At the Detroit Zoo, you’ll learn about several citizen science projects, collect data on birds and present your findings to your community.  
DAPCEP BUS TRANSPORTATION NOT OFFERED FOR THIS COURSE.  
**COST:** $25  
**TEACHER:** Sandra Ling  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm

CODING GAMES WITH SCRATCH  
*AccelerateKID - 32640 Concord Dr., Madison Heights, MI 48071*  
Students will develop an understanding of coding with Scratch and other programming basics. Students will storyboard, design and develop apps, learn to debug and present their final projects, which can be run on android or apple devices. DAPCEP BUS TRANSPORTATION NOT OFFERED FOR THIS CLASS.  
**COST:** $25  
**TEACHER:** Thanh Tran  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm

PROBLEM SOLVING FOR MIDDLE SCHOOL STUDENTS  
*Oakland University - Franklin Wright Settlement*  
This camp is for middle school students who want to develop critical thinking skills. Students will learn how to think analytically when solving Math story problems and playing quiz-styled games. They will also learn how to think outside the box in various creative challenges with riddles and hands-on activities. On the last day, students will combine both their analytical and creative thinking by doing an Escape Room and a simulating how a virus is spread.  
**COST:** $25  
**TEACHER:** OU Staff  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm
LEGO ROBOTICS CHALLENGE
University of Detroit Mercy
This course will use the LEGO EV3 kits and Mindstorms NXT System. Students will be given several mini challenges in which they will have to work in small groups to design, build and program a robot to accomplish various tasks. Students will learn principles of programming, the behavior of real world systems, and controls. Students will be able to implement real world tasks while having fun! A robot will be programmed to navigate around a room or through a maze, play music, games, cruise adaptively, implement the segway, Bluetooth communications, etc. The last day will feature a display and competition among the groups based on the challenges they accomplished.

COST: $25  TEACHER: U of D Mercy Staff
DATES: October 6 - November 10  TIMES: 9am - 12pm

EXAM EXPERTS - SAT LEVEL 1
MJ Digital (UBG Educational Management) UAW GM Location
Train for the new ACT exam, utilizing ExamExperts’ highly motivational Accelerated Retention Learning (ARL) training method. Major focus is placed upon building confidence while eliminating test anxiety. Also gain techniques for internet scholarship research.

COST: $25  TEACHER: Mark Mayberry
DATES: October 6 - November 10  TIMES: 9am - 12pm

STUDY SMARTER NOT HARDER
Wayne State University
Develop strong study skills, expand your knowledge base, and build confidence in your ability to improve your grades!

COST: $25  TEACHER: WSU Staff
DATES: October 6 - November 10  TIMES: 9am - 12pm

URBAN DESIGN WORKSHOP
IMHOTEP - Lawrence Technological University, Architecture Building
This course will provide opportunities for students to explore careers in architecture and planning and trains students in basic architectural principals and computer-aided design (CAD) software. Students participate in an enhanced curriculum teaching them basic architectural principals and computer-aided drafting software. The training will give them basic drafting and presentations skills. Google Sketch Up, available for free on the internet, will be the primary software taught.

COST: $25  TEACHER: Robert Saxon
DATES: October 6 - November 10  TIMES: 9am - 12pm
INTRODUCTION TO E-ROBOTICS
Triumph Church
Imagine it, engineer it, and make it go. Powered by the LEGO MINDSTORMS Education NXT Base Set and software, your student will explore the exciting world of robotics and engineering. Combining the versatility of the LEGO building system and intuitive drag-and-drop programming software, this adventure will have your student working in teams, making friends, and creating robots from day one!

**COST:** $25  **TEACHER:** Triumph Church Staff  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

INTRODUCTION TO PYTHON PROGRAMMING
Triumph Church
Acquire basic coding skills including: “Python” Basics and “Turtle Graphics”, Numbers, Variables, and Loops Conditions and Random Games Functions, Timers and Animation User Interfaces, and Game Programming. Write and modify a program each week!

**COST:** $25  **TEACHER:** Triumph Church Staff  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

INTRODUCTION TO ROBOTICS COMPETITION
Triumph Church
Introductions to Robotics Competition is a Phase 2 class continuation of the initial robotics course offered at Triumph Church (Introduction to E-Robotics). The purpose of this course is to: further build on the concepts learned in the introductory class, and engage the students in a competition/team building environment (a smaller scale to Lego Fist Robotics Competition).

**COST:** $25  **TEACHER:** Triumph Church Staff  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

MATH MASTERS!
MJ Digital (UBG Educational Management) UAW GM Location
This valuable course will take a deep dive into problem-solving methods for Algebra, Geometry, and Trigonometry. In particular, students will learn techniques and strategies to increase their proficiency in the subject, as well as learn mathematics strategies to solve complex problems quickly and more efficiently on tests and standardized exams.

**COST:** $25  **TEACHER:** Mark Mayberry  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

SPORTS SCIENCE
MJ Digital (UBG Educational Management) UAW GM Location
This exciting course examines the relationship between sports and principles of mathematics and science. Focus is on real-world applications in sports such as baseball, football, basketball, track and field, and more!

**COST:** $25  **TEACHER:** Mark Mayberry  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm
7th thru 12th GRADE

FORD MOTOR CO. INNOVATIVE MOBILE APP CHALLENGE
Ford Motor Company iTEK West - 15555 Lundy Pkwy, Dearborn, MI 48126
Working in a classroom setting, teams of 3 - 5 students develop an original concept for a mobile app that incorporates STEM principles, and content while addressing a real need or problem in their school or community. While designing their apps, students consider marketplace need, usefulness, audience and viability. At the end of the program, teams submit their design concepts through an App concept overview and summary including, a three-to-five minute presentation. **DAPCEP BUS TRANSPORTATION IS NOT AVAILABLE FOR THIS COURSE.**

**COST:** $25  
**TEACHER:** Ford Staff  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm

GROUND ROBOTICS
Oakland University
This introductory-level course for the serious student who has an interest in VEX Robotics. Employing a “problem-based classroom” teaching approach, the instructor will give the students the directions for building the basic claw bot and allow them to build in groups of 2 to 5 depending on class size. Once the robots are built, the instructors will teach basic RobotC programming. Instructors will teach concepts and ideas as needed by each group. The admissions process will depend on the number of students who apply.

**COST:** $25  
**TEACHER:** OU Staff  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm

8th GRADE

ALGEBRA
Wayne State University
Develop your mathematical knowledge and skills, as well as the critical thinking, analytical and problem-solving skills fundamental to the study of mathematics with a focus on algebra.

**COST:** $25  
**TEACHER:** WSU Staff  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm

9th thru 11th GRADE

EXPLORATIONS IN BIOLOGY
University of Detroit Mercy
A hands-on exploration of the principles governing biology. Topics will include ecology, genetics and physiology. Students will work with animals, plants and microbes. Students will learn how to use a microscope. Dissections will be a limited part of the class.

**COST:** $25  
**TEACHER:** U of D Mercy Staff  
**DATES:** October 6 - November 10  
**TIMES:** 9am - 12pm
FROM HUSTLE TO CEO
*Entrepreneur Academy - UAW GM Location*

Exciting program that transforms high school students into confident entrepreneurs. Students consider how their product, service, or tech ideas have the capacity to impact their communities. Through the 12-week program, students will refine their service, product or tech idea, develop a prototype, conduct market research, write a business plan, pitch to a panel of investors, and launch their very own company. Students will showcase their final products and business plans in a public forum.

**COST:** $25  **TEACHER:** Larry Price  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

CAD PRODUCT DESIGN: SOLID WORKS
*University of Detroit Mercy*

DAPCEP students will learn to create 3D CAD solid models using CATIA V5. Students will learn to create 2D sketches and then how to generate 3D models from the sketches. This course covers fundamentals of CAD design and provides a good foundation for the engineering academic curriculum. CATIA is one of two major CAD systems used by GM, Ford and Chrysler.

**COST:** $25  **TEACHER:** U of D Mercy Staff  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

FUNDAMENTALS OF ACCOUNTING & FINANCE
*Wayne State University*

PricewaterhouseCoopers staff will provide hands-on activities and insight to introduce students to careers within the lucrative industries of accounting and financial services. Topics to be discussed: 1) personal finance; 2) What is Finance?; 3) What is Accounting? and assisting students with college readiness.

**COST:** $25  **TEACHER:** WSU Staff  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm

EXAM EXPERTS - SAT LEVEL 2
*MJ Digital (UBG Educational Management) UAW GM Location*

Train for the new ACT exam, utilizing ExamExperts’ highly motivational Accelerated Retention Learning (ARL) training method. Major focus is placed upon building confidence while eliminating test anxiety. Also gain techniques for internet scholarship research.

**COST:** $25  **TEACHER:** Mark Mayberry  
**DATES:** October 6 - November 10  **TIMES:** 9am - 12pm
IN MY FEELINGS: EMBRACING STEM IN HEALTH INSURANCE

Blue Cross Blue Shield

Ever wonder why you’re taking so many science and math classes and how it even applies to your future? Through fun interactive activities this course will introduce students to potential career paths in health insurance. Students will gain first-hand knowledge of how STEM is integrated into our health insurance industry. Get ready for a fun learning experience!!

COST: $25  TEACHER: Patrece Cade
DATES: October 6 - November 10  TIMES: 9am - 12pm

HEALTHCARE & PROFESSIONAL DEVELOPMENT

Wayne County Community College - 8200 W. Outer Dr. Detroit, MI 48219

This course is designed to assist students in making career choices in the healthcare industry. Development of self-confidence, motivation, human relation skills and stress reduction in the classroom and the workplace are emphasized. Study skills, time management, and conflict resolution are also highlighted. Students will receive one college credit upon completion of this course.

COST: $25  TEACHER: WCCC Staff
DATES: October 6 - November 10  TIMES: 9am - 12pm

PRE CALCULUS

Wayne State University

The goal of the course is to develop the mathematical knowledge and skills, as well as the critical thinking, analytical and problem-solving skills fundamental to the study of mathematics in general and calculus in particular. The course begins with a study of the algebraic properties of numbers, variables, equalities, and inequalities. The concept of a function is introduced, and algebraic, geometric, and numerical techniques are used to study the properties of functions. Specific functions, such as the polynomial and exponential, are studied in more detail. After a brief introduction to the concepts of trigonometry, trigonometric functions are examined.

COST: $25  TEACHER: WSU Staff
DATES: October 6 - November 10  TIMES: 9am - 12pm

SKILLED TRADES & PROFESSIONAL DEVELOPMENT

Wayne County Community College - 801 Fort St. Detroit, MI 48226

This course is designed to assist students in making career choices in the skilled trades industries. Development of self-confidence, motivation, human relation skills and stress reduction in the classroom and the workplace are emphasized. Study skills, time management, and conflict resolution are also highlighted. Students will receive one college credit upon completion of this course.

COST: $25  TEACHER: WCCC Staff
DATES: October 6 - November 10  TIMES: 9am - 12pm
ACCELERATEKID  
32640 Concord Dr., Madison Heights, MI 48071   (248) 910-0475

BLUE CROSS BLUE SHIELD  
600 E. Lafayette, Detroit, MI 48226   (313) 448-6752

DAPCEP  
UAW - GM, 200 Walker St., Detroit, MI 48207   (313) 978-8005

DETOUR ZOOLOGICAL SOCIETY  
8450 W. Ten Mile Road, Royal Oak, MI 48067   (248) 336-5813

ENTREPRENEUR ACADEMY  
UAW - GM, 200 Walker St., Detroit, MI 48207   (855) 440-4249

MJ DIGITAL, INC. (UBG Educational Management)  
UAW - GM, 200 Walker St., Detroit, MI 48207   (313) 289-4232

FORD MOTOR COMPANY iTEK WEST  
15555 Lundy Pkwy., Dearborn, MI 48126   (313) 220-6819

IMHOTEP  
Lawrence Technological University, Architecture Building  
21000 W. 10 Mile Rd., Southfield, MI 48075   (734) 347-1298

LAWRENCE TECHNOLOGICAL UNIVERSITY  
21000 W. 10 Mile Rd., Southfield, MI 48075   (248) 204-3516

OAKLAND UNIVERSITY  
2200 N. Squirrel Rd., Rochester, MI 48309   (248) 370-2217

TRIUMPH CHURCH  
2760 E. Grand Blvd., Detroit, MI 48211   (313) 231-9923

UNIVERSITY OF DETROIT MERCY  
4001 W. McNichols, Detroit, MI 48238   (313) 993-1435

UNIVERSITY OF MICHIGAN DEARBORN  
4901 Evergreen Rd., Dearborn, MI 48128   (313) 593-5510

UNIVERSITY YES ACADEMY  
14669 Curtis St., Detroit, MI 48207   (313) 298-4232

WAYNE STATE UNIVERSITY  
201 Manoogian, Detroit, MI 48201   (313) 577-3040
BUS DEPOT LOCATIONS

CHANDLER PARK ACADEMY
High School Building
20254 Kelly Rd., Harper Woods, MI 48225

GOING TO
- All courses held at UAW-GM
- Lawrence Technological University
- Oakland University
- Triumph Church/Wayne State University
- University of Detroit Mercy
- University of Michigan Dearborn

LAWRENCE TECHNOLOGICAL UNIVERSITY
20220 Ten Mile Road, Southfield, MI 48075

GOING TO
- All courses held at UAW-GM
- Oakland University
- Triumph Church/Wayne State University
- University of Michigan Dearborn

PLEASE NOTE
- Students are expected to be at the bus stop location by 7:30 am as busses leave promptly at 8am.
- Parents may ask bus monitors for the approximate time for student pick up.
- Please be prompt in dropping off and picking up your student.
- Transportation routes are subject to change or cancellation based on the number of student reservations.
Families that wish to apply for financial aid must complete the Financial Aid Form Fall 2018 (www.dapcep.org/financialaid) after registering students in the DAPCEP online system. The available financial awards are as follows:

<table>
<thead>
<tr>
<th>TOTAL FAMILY SIZE</th>
<th>ANNUAL INCOME</th>
<th>MONTHLY INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$21,978</td>
<td>$1,832</td>
</tr>
<tr>
<td>2</td>
<td>$29,637</td>
<td>$2,470</td>
</tr>
<tr>
<td>3</td>
<td>$37,296</td>
<td>$3,108</td>
</tr>
<tr>
<td>4</td>
<td>$44,955</td>
<td>$3,747</td>
</tr>
<tr>
<td>5</td>
<td>$52,614</td>
<td>$4,385</td>
</tr>
<tr>
<td>6</td>
<td>$60,273</td>
<td>$5,023</td>
</tr>
<tr>
<td>7</td>
<td>$67,951</td>
<td>$5,663</td>
</tr>
<tr>
<td>8</td>
<td>$75,647</td>
<td>$6,304</td>
</tr>
</tbody>
</table>

The completed financial aid application must be turned in during the enrollment period. Forms can be submitted via mail, fax (313) 831-5633, or email: info@dapcep.org. You will have two weeks from the date on your notification letter to pay your remaining balance. Mail to: DAPCEP, 2111 Woodward Ave., Ste. 506, Detroit, MI 48201, or pay in person at the DAPCEP Office. We will ONLY accept money orders and cashier checks.

FALL 2018 IMPORTANT DATES:
Financial aid application deadline: September 30, 2018
Grades Pre K – 3rd - September 22 – November 10, 2018
Grades 4th & above – October 6 – November 10, 2018

Needed Information:
You will need to provide one the following to complete your financial aid application:
- Copies of most recent IRS Federal Form 1040, 1040A, 1040-EX US Individual Income Tax Return
- Copies of all supporting documentation for household Non-Taxable Income such as: Social Security Income, Welfare, Child Support, Food Stamps, Workers’ Compensation and Temporary Assistance for Needy Families (TANF).
The STEM Squad is a team of professionals who work in the fields of science, technology, engineering, mathematics, and medicine. Squad members are passionate about what they do and undergo intensive training with DAPCEP in order to bring pop-up STEM workshops to your school!

Every pop-up workshop is correlated to state education standards. The Squad has a hands-on, curriculum-based workshop at the elementary, middle, and high school levels (grades 3-12). Each workshop is 3-hours long and can either be done during the school day, or after-school (in one-hour segments over the course of three days).

We have 14 pop-up workshops available. Visit dapcep.org/programs/stemsquad for more info. We look forward to bringing STEM to you!

TO INVITE THE SQUAD TO YOUR SCHOOL OR ORGANIZATION, PLEASE REGISTER AT:
www.dapcep.org/programs/stemsquad
or call us: (313) 324-8280
Thank You to all of our Partners!