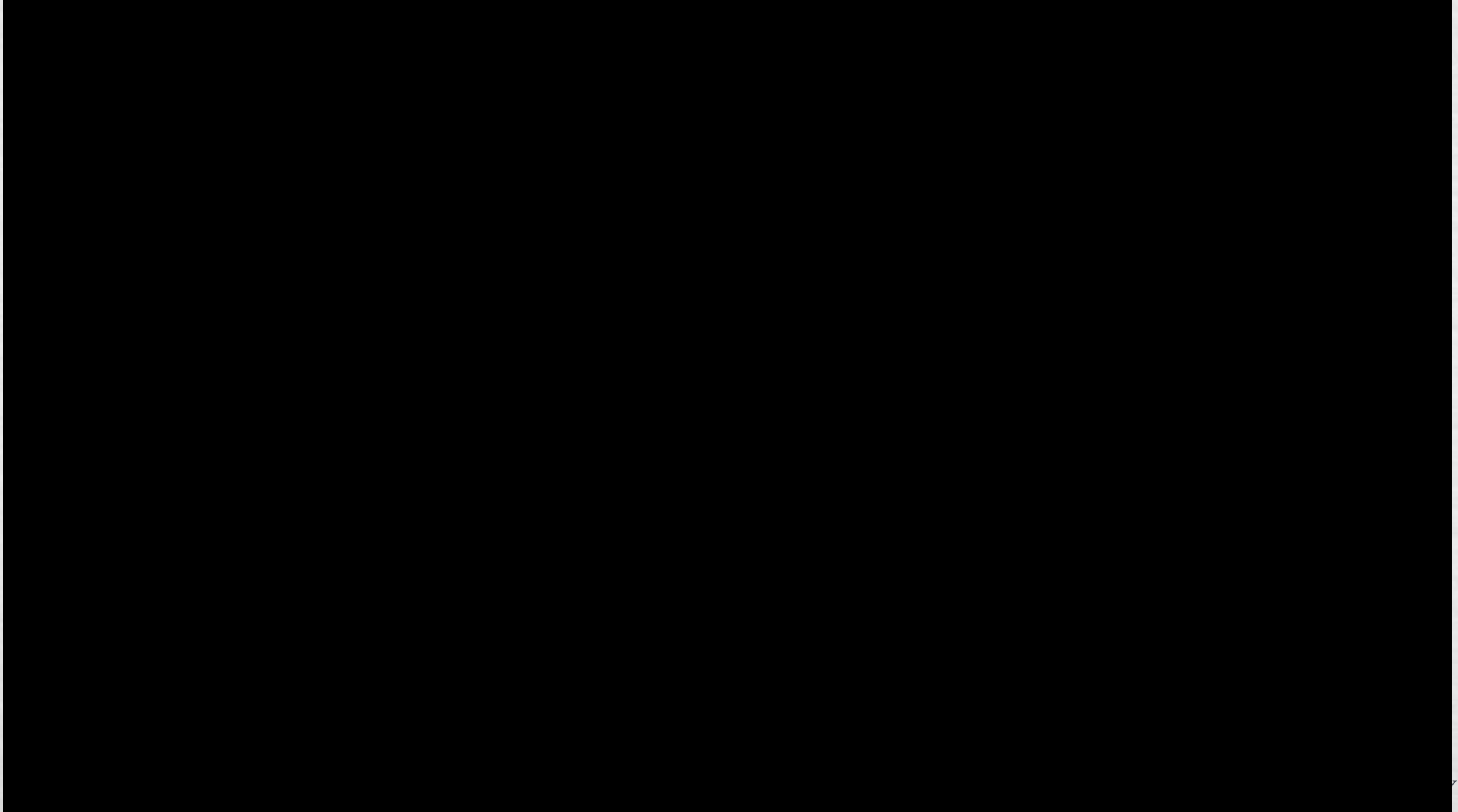




# Path to a Private Pilot Certificate

# What is West Michigan Aviation Academy



# Today's Flight Plan

- What is WMAA?
- Enrollment
- Flight Science Pathway
- Aviation Curriculum
- Private Pilot Ground School
- Flight Operations
- Lesson's Learned



# Tuition-Free Public Charter High School Emphasis on Aviation & Engineering



# STEM

# STEM Endorsement

## ENDORSEMENT OVERVIEW

- Designed to inspire and recognize students with interest and performance in Science, Technology, Engineering, and Mathematics
- Will set students apart on applications, interviews, and scholarship competitions

## REQUIREMENTS

Grade of B or higher in all STEM endorsement credits

- 4 credit of mathematics
- 4 credits of science (2 must be AP or Honors)
- 4 additional credits in STEM electives

# STEM Electives

- Advanced Robotics
- AP Calculus AB
- AP Statistics
- Computer Science
- Computer Aided Design and Drafting
- Aerospace Engineering
- First Robotics Challenge
- Engineering Design and Development
- AP Computer Science A
- AP Computer Science Principles
- Meteorology
- Astronomy
- Anatomy & Physiology
- AP Physics
- AP Chemistry
- AP Biology
- *Private Pilot Ground School*
- *Private Pilot Flight School*
- *Instrument Flight*
- *Advanced Aviation*
- *Unmanned Aerial Systems*



How are we the  
same?



# Michigan Merit Curriculum

Hour	9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade
1	English 9	English 10	English 11	English 12
2	Math	Math	Math	Math
3	Physics	Chemistry	Biology	
4	World History	US History	Government/Economics	
5	Spanish	Spanish		
6	PE/Health Education			

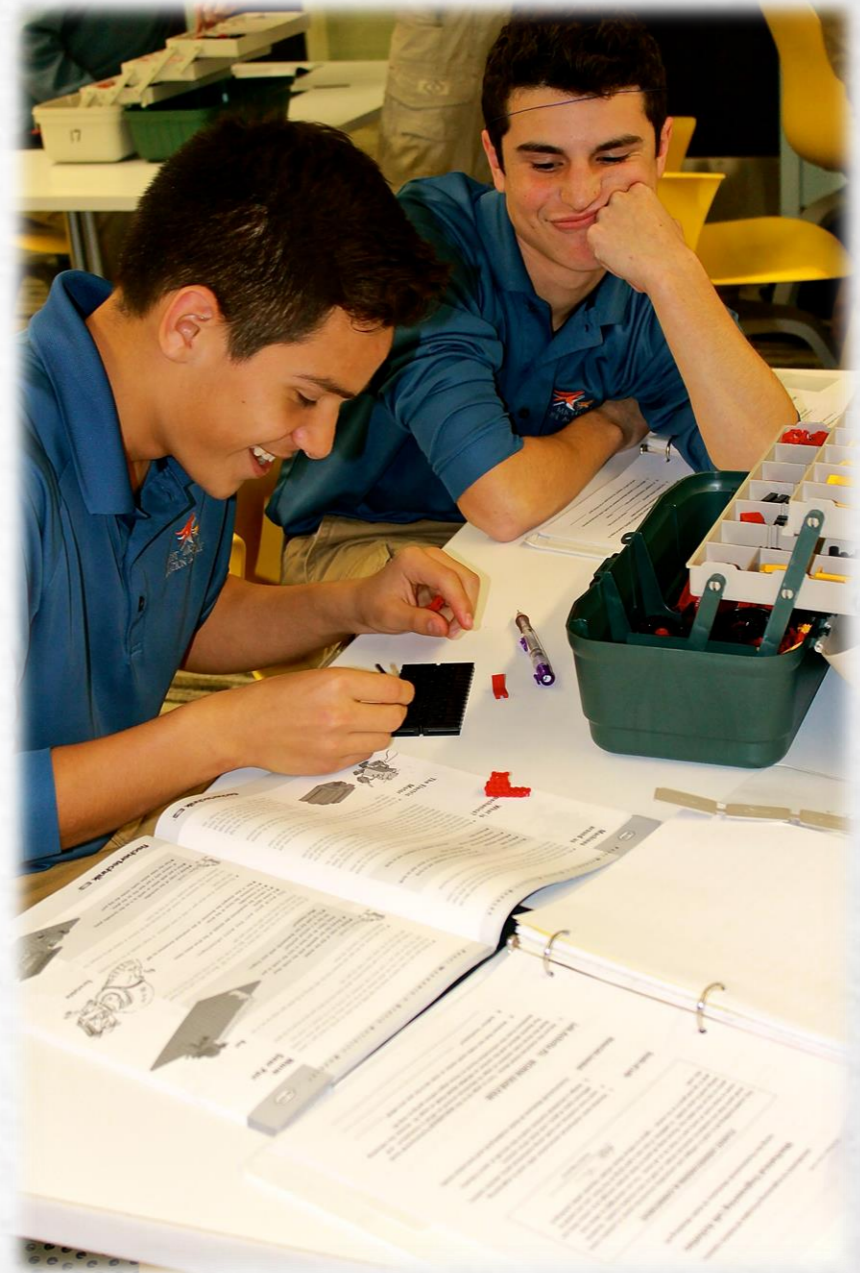




# AP/Honors/Dual Enrollment

## Activities

## Sports



# How we are unique...



WEST MICHIGAN  
AVIATION ACADEMY

# Professionalism/Culture

- Young Ladies and Gentlemen



# Higher Expectations

- 70% or higher to earn credit
- Character Grade
- 100 Hour Community Service Requirement

# Extended School Day

- School Day is 8:00am – 3:30pm
- Seven class periods



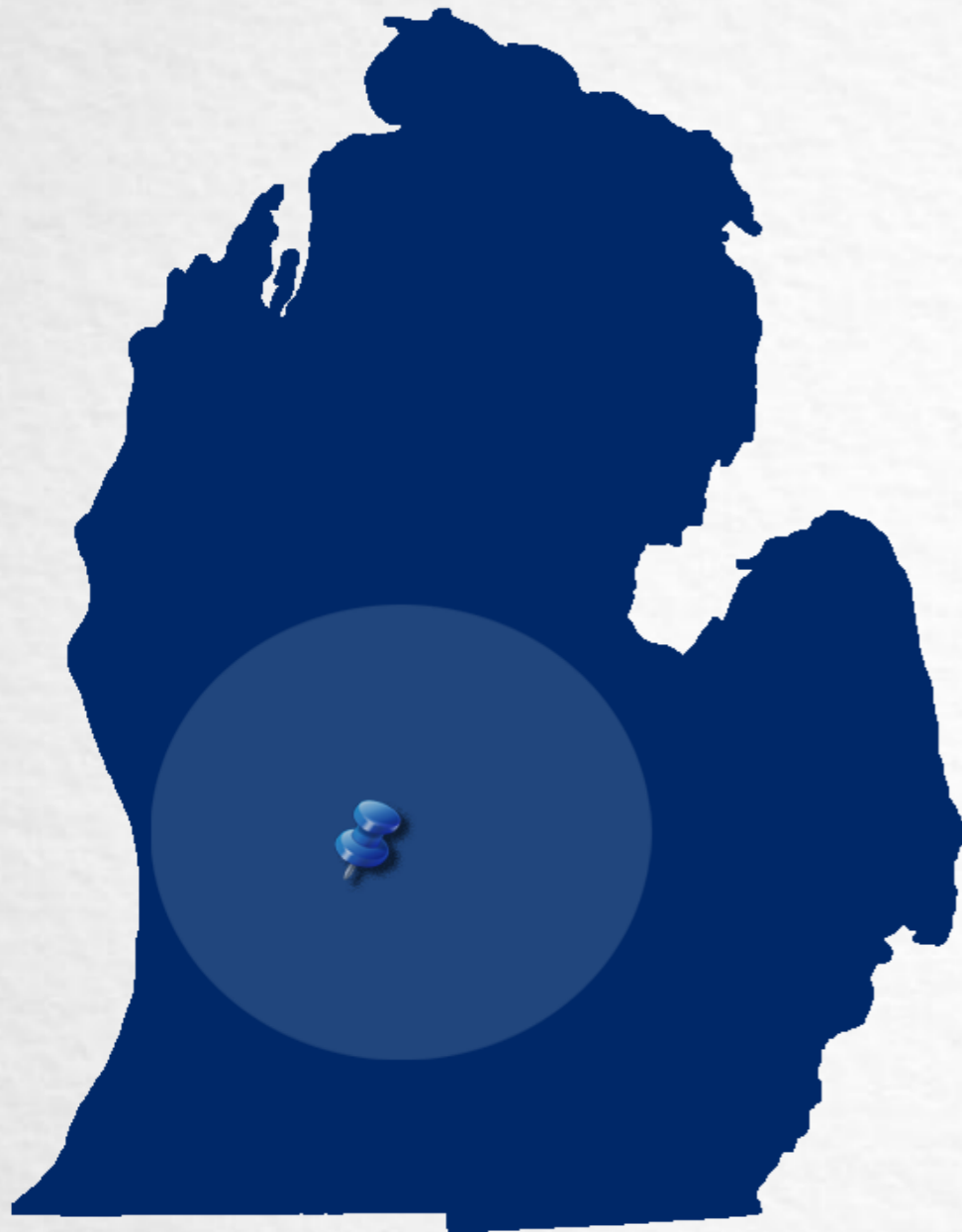
# Special Guests at WMAA



# Our Partnerships

- Bowling Green State University College of Aviation
- Delta Air Lines Foundation
- Embry-Riddle Aeronautical University
- GE Aviation
- Gerald R. Ford International Airport
- Gulfstream
- Kalamazoo Air Zoo
- Northwestern Michigan College
- School of Missionary Aviation Technology
- Steelcase
- University of Michigan College of Engineering
- Western Michigan University College of Aviation

# WMAA Enrollment 2015-2016

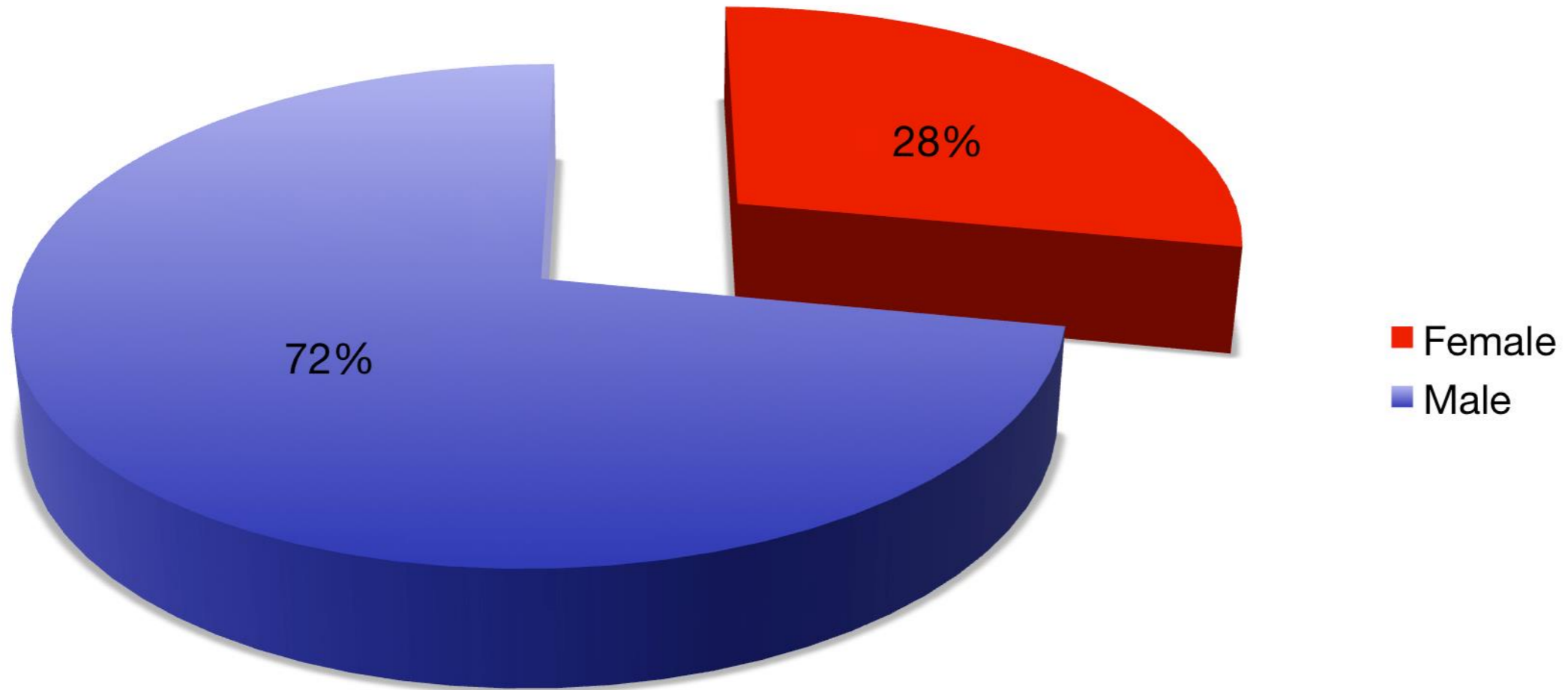


## Sending Districts:

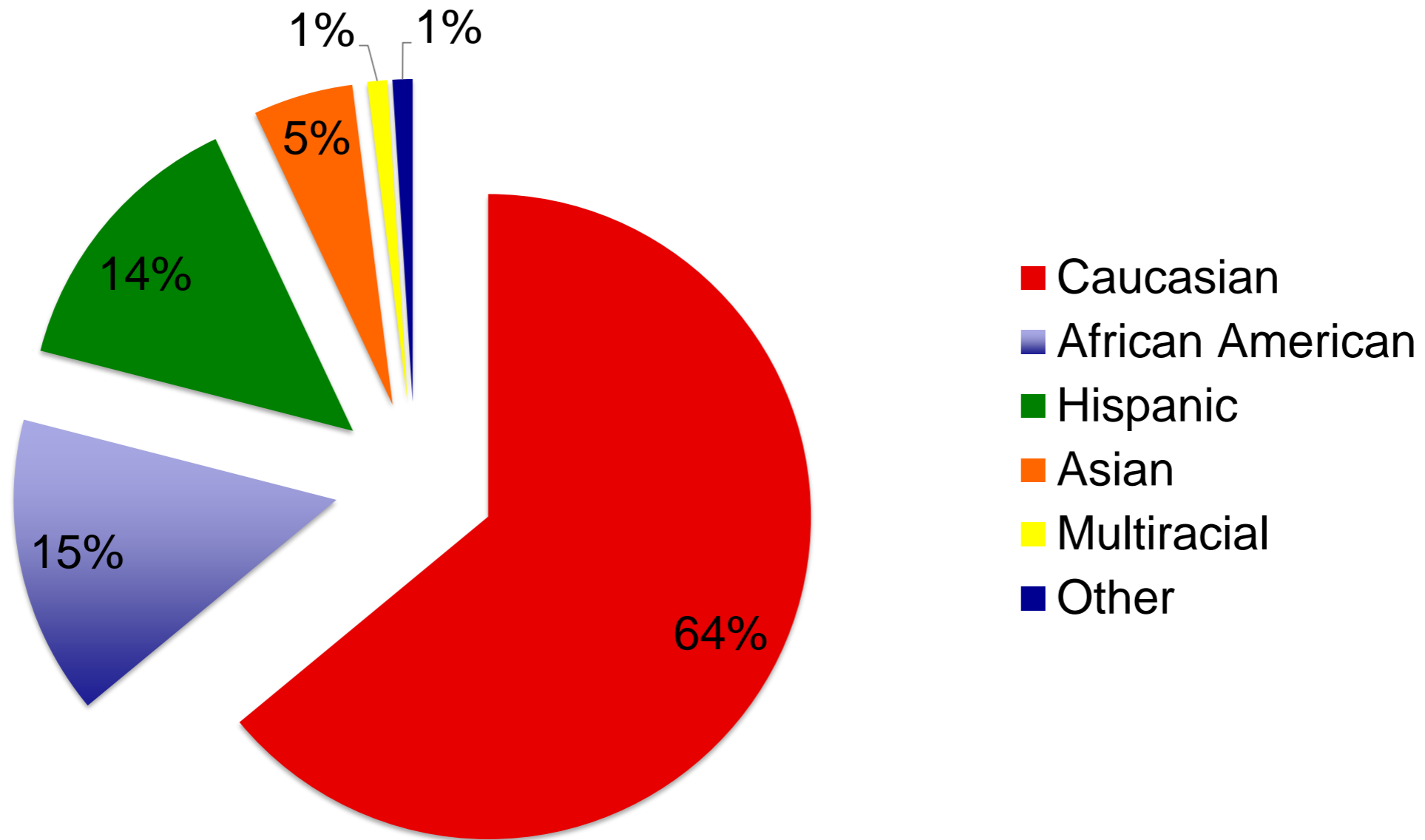
Allegan	Jenison
Big Rapids	Kelloggsville
Byron Center	Kenowa Hills
Caledonia	Kent City
Carson City	Lowell
Cedar Springs	Northview
Central Montcalm	Otsego
Comstock Park	Ravenna
Coopersville	Rockford
Delton-Kellogg	Saranac
East Grand Rapids	Sparta
East Kentwood	Thornapple Kellogg
Forest Hills	Tri County
Godfrey Lee	Wayland
Godwin Heights	West Ottawa
Grand Rapids	Wyoming
Grandville	Zeeland
Greenville	
Hastings	
Holland	Home School
Holton	International
Hopkins	Out of State
Hudsonville	
Ionia	



# Gender Distribution

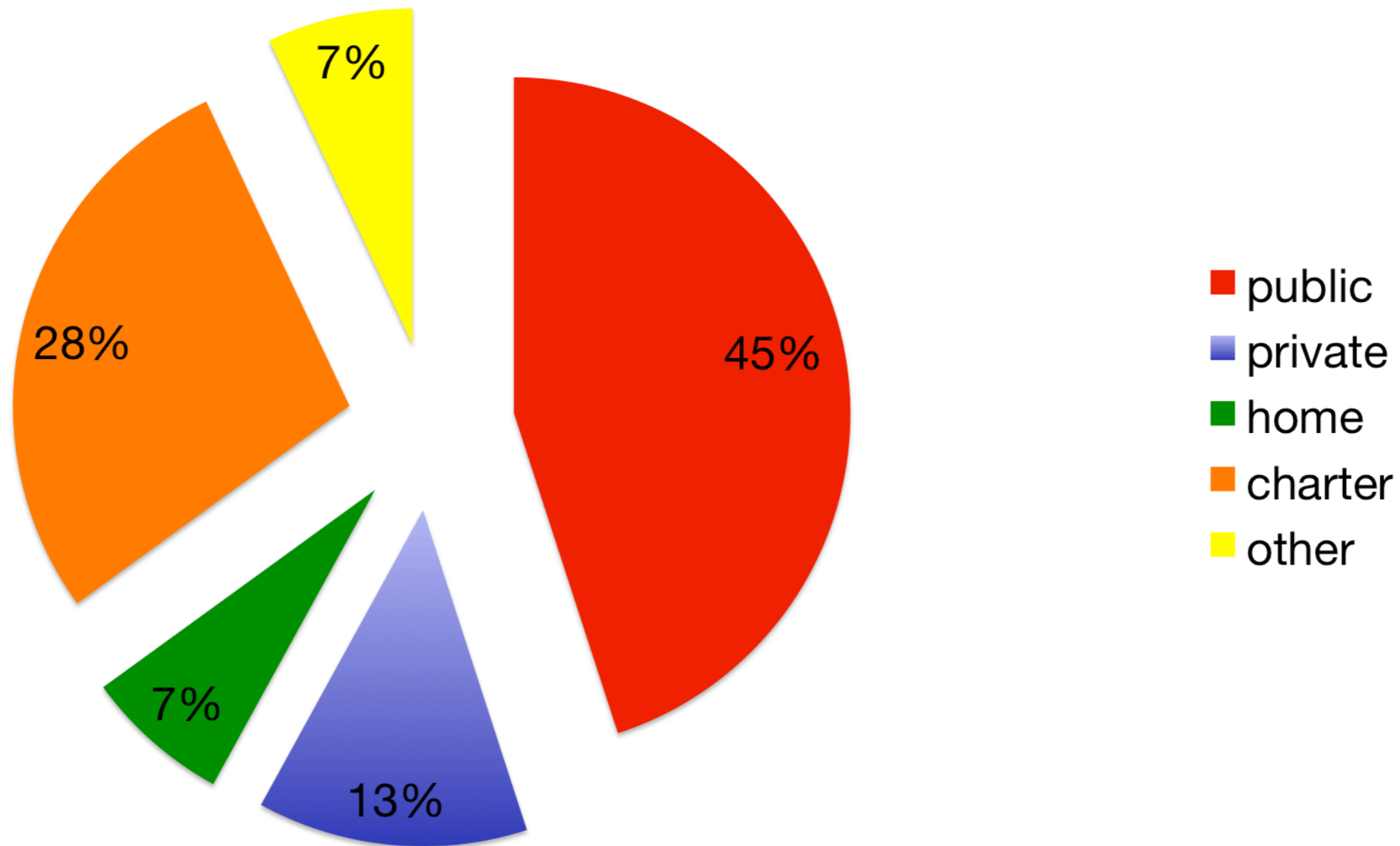


# Race / Ethnicity





# Type of Sending School



# Where our students are going...

Baker College of Owosso  
Calvin College  
Central Michigan University  
Cornerstone University  
Davenport University  
Eastern Michigan University  
**Embry-Riddle Aeronautical  
University**  
Grand Rapids Community College  
Grand Valley State University  
Kettering University  
Lake Michigan College  
Lansing Community College  
LeTourneau University  
Lewis University  
Michigan State University  
Michigan Technological University  
University of Michigan

Muskegon Community College  
**Northwestern Michigan College**  
Shawnee State University  
Spring Arbor University  
School of Missionary Aviation Tech.  
Southeastern Baptist Theological  
Seminary  
The University of Alabama  
Tuskegee University  
United States Naval Academy  
University of Michigan  
University of Oklahoma  
University of Texas  
University of Toledo  
Walla Walla University  
**Western Michigan University**



# Flight Science Pathway



# Guidance

- **WMAA Board of Directors**
- **Aviation Subcommittee**
- **Career in Technical Education (CTE) Advisory Committee**



# Aviation Curriculum

## Grade 9

- Intro to Aviation
- Aviation History & Literature

## Grade 10

- Aero Design & Simulation
- Aviation Physiology
- Flight Brief
- Intro to Aviation Maintenance
- Intro to Flight Planning
- Intro to Remote Control

## Grade 11

- Private Pilot GROUND School
- Aviation Electronics - KCTC
- Aviation Maintenance - KCTC
- Aviation Business Administration
- Aerospace Engineering

## Grade 12

- Private Pilot FLIGHT School
- Advanced Aviation
- Instrument Flight
- Intro to Unmanned Aerial Systems
- Aviation Electronics – KCTC
- Aviation Maintenance – KCTC
- Dual Enrollment KCC/WMU



# Aviation-Related Activities

- Junior Flight Team Competition
- Simulation Lab
- Summer Incentive Flight Program
- ACE Awards
- Wildcat Restoration
- Project
  - Civil Air Patrol
  - Summer Glider Solo Camp
  - UAS for STEM
  - Remote Control Airplane Club
- GAMA 2016 Aviation Design Challenge
- Field Trips/Guest Speakers



# Flight Science Required Courses

## Grade 9

- Intro to Aviation
- Aviation History & Literature

## Grade 10

- Preflight Planning

Highly Recommend  
Glider Camp  
Participation

## Grade 11

- Private Pilot Ground School

## Grade 12

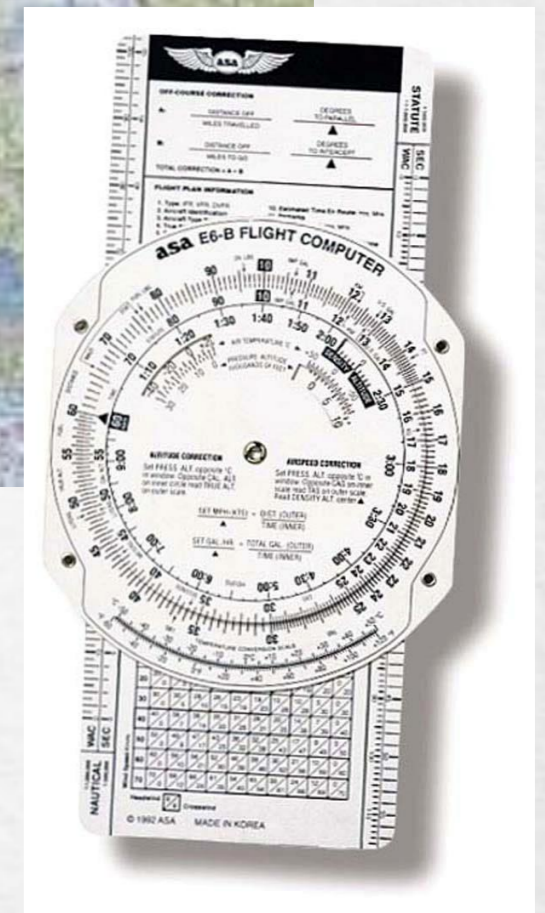
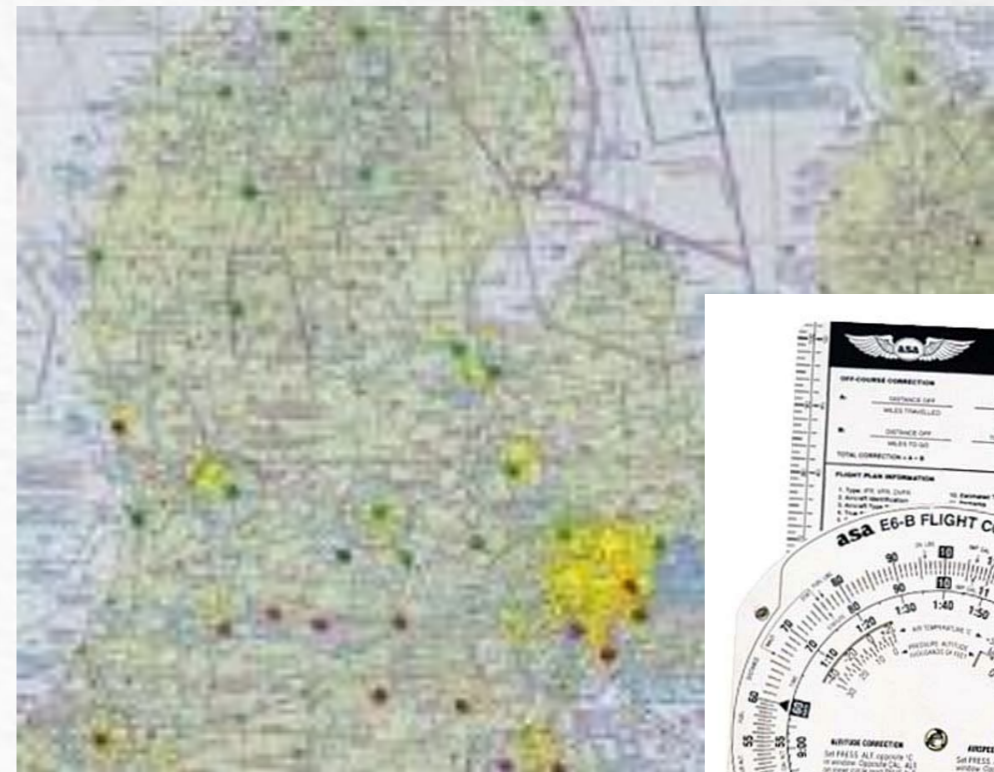
- Flight Science



# Preflight Planning

10 Weeks

- Atmosphere
- Takeoff and Landing Data
- VFR Charts
- E6B Flight Computer
- Navigation Log
- Weight and Balance



Goal: Identify future PPGS students



WEST MICHIGAN  
AVIATION ACADEMY



# Private Pilot Ground School

## Full Year

- Jeppesen Textbook
- Red Bird Advanced Training Device
- J-Bird Simulators
- Student Binder
- Articles
- Video



Goal: Earn endorsement then...

Pass FAA Written

# Flight Science

## Full Year (Two class periods 6-7)

- Jeppesen Flight Syllabus
- Student Grade Binder
- Red Bird Advanced Training Device
- J-Bird Simulators
- Articles
- Video
- System Subject Matter Expert (SME)
- Private Pilot FAA Practical Test Study Guide (Jeppesen)
- Oral Exam Guide (ASA)



Goal: Private Pilot Certificate

# FAA Check Ride

4-hour time block (Two hour oral and 2 hour practical)

## Preparation

- FAA Written Results
- Endorsed Logbook
- Flight Grades Binder
- FAA Publications
- Maintenance Logbooks
- Emergencies and Limitations
- Oral Preparation
- FAA Designated Pilot Examiner



# Certified Flight Instructors

## Four on staff:

- Two retired F/A-18 Marines
- One F-15E Air Force
- One corporate/charter/air ambulance

### Must be state CTE certified

- Three graduate level classes
- Pass Professional Readiness Exam or ACT Benchmark

## Three on contract:

- One retired airline
- One retired ATC
- Two corporate



# Cessna 172SP

- **Avionics/Instrumentation**

- Analogue gages
- Garmin KLN-94/89 GPS
- NGT-9000+
- Garmin AOA Indicator



- **Hangar**

- Shared with two maintenance entities

- **Maintenance**

- Local & Remote
- Engine Overhaul



# Gerald R. Ford International Airport (KGRR)



# Daily Operations

- **Scheduling**
  - Google Calendar & SkyManager
- **Flight Operations**
  - Check out/Check in
  - Parking - In/out
  - Fueling
  - Remote airports
- **Classroom Operations**
  - Simulators
  - Academics



# Lesson's Learned

**Extra Curricular vs Integrated**

**Insurance – Liability**

**Funding – Gala / Individuals**

**Medicals - Timing**

**Citizenship - TSA**

**Standardization - SOPs**

**Human Factor – HF Counsel**

**Academics/Payments – Passing/In  
the black**

**Professionalism – Daily conduct**

**The future?**





# Questions?

