FAHS COURSE PROPOSALS

BOARD OF EDUCATION REPORT, DECEMBER - 2012

Seven New Courses Proposed

- 2013-14 School Year:
  Mathematics
  - Mobile App Development

  Technology Education
  - 3D Solid Modeling: Computer Aided Drafting
  - Industrial Design & Manufacturing
  - Green Technology
  - Introduction to Engineering

- 2014-15 School Year:
  Technology Education
  - Principles of Engineering
  - Architectural Design with Green Concepts

RATIONALE FOR NEW COURSES

- Career & College Readiness
- Viable Career Pathways
- Contemporary Course Offerings
- Facilitate 21st Century Skill Development
- Continue to maximize post- secondary options that provide FAHS graduates with an advantage.

GENERAL IMPLICATIONS

FTE/Staffing Needs

- Dependent on Course Selections (Early February)

Equipment

- Materials:
  software,
- Equip

Defined in Course Proposals

MATHEMATICS:
Mobile App Development

THIS IS
THE WORLD WE LIVE IN

WHY SHOULD WE OFFER MOBILE APP DEVELOPMENT?

- Cultivate 21st century skills such as critical thinking, problem-solving, creativity, and collaboration
- Teach students how to be more than 'users' of technology
- Address the demand that the Android Summer Camp revealed
- Strive to be a beacon high school

How does Mobile App Dev. differ from other CS courses?

- Fits the needs of students of a wide variety of post secondary options (college, technical, university, military)
- Open to any student who has completed Geometry
- Stand-alone elective course
- Different type of programming

REACHING THE WORLD

	YOUR APP
United States	413
Canada	8
Belgium	2
Denmark	2
South Korea	2
Mexico	2
Australia	1
Germany	1
Dominican Republic	1
Others	101

FAHS COMPUTER SCIENCE CURRENT COURSE SEQUENCE

AP Computer Science
Advance Software Development in Java
1 year
Prereq: Computer Science 2
Open to: 11 and 12

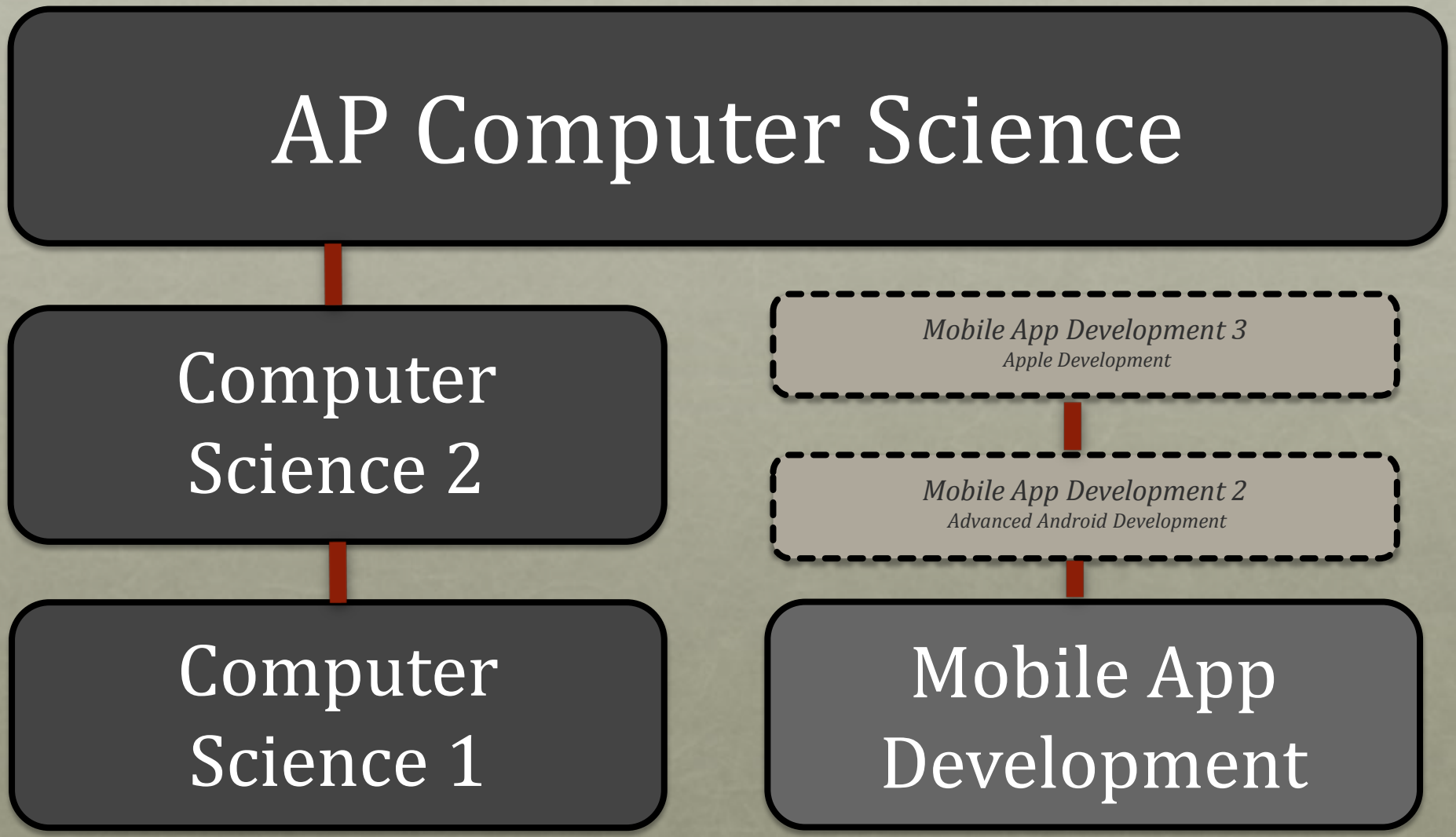
Computer Science 1
Intro. to Software Development

1 semester (1st semester only)
Prereq: Algebra 1
Open to: 10, 11, and 12

Computer Science 2
Software Development in Java

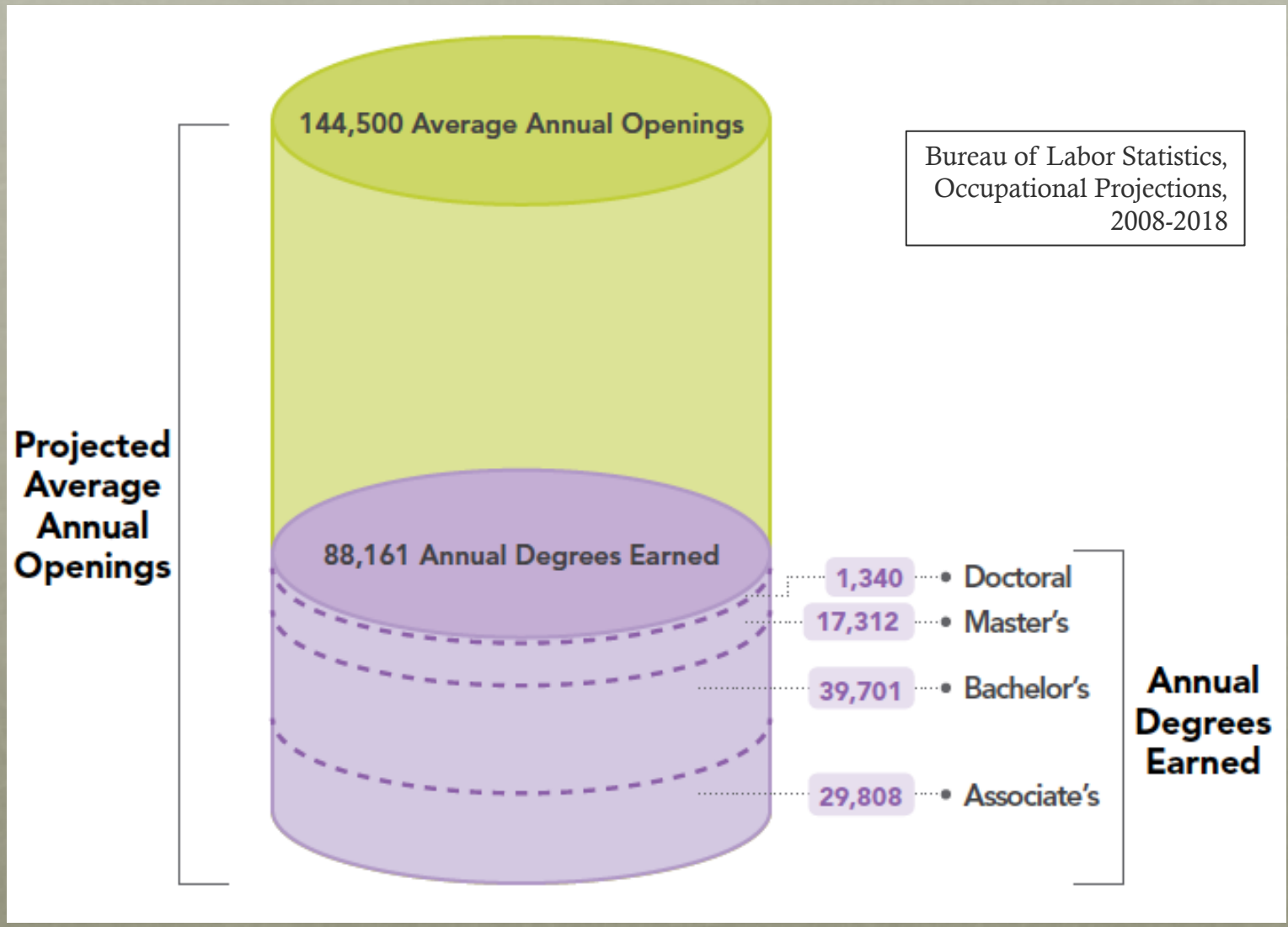
1 semester (2nd semester only)
Prereq: CS 1 or consent of instruct.
Open to: 10, 11, and 12

FAHS COMPUTER SCIENCE NEW COURSE SEQUENCE



Career Opportunities for Students in Computer Science

Job Growth



FAHS COMPUTER SCIENCE

"If students are to thrive in the new global economy, it is essential they are provided with high-level computer science skills…no other subject will open as many doors in the 21st Century."

- Chris Stephenson
CSTA executive director

TECHNOLOGY EDUCATION

3D Solid Modeling: CAD

Design For Industry & Manufacturing

Green Technology

Introduction to Engineering

SKILLS GAP

CAREER PATHWAYS

Technology Education

- Industrial Design & Fabrication
- Automotive/ Transportation
- Construction
- Drafting/ Engineering
  - 3D Solid Modeling: CAD
  - Industrial Design & Manufacturing
  - Introduction to Engineering
  - Principles of Engineering
  - Architectural Design with Green Concepts
- Green Technologies
  - Green Technology

New courses apply to more than one pathway.

Proposed Implementation 2014-15

STEM ACADEMY

STEM 101:

SCIENCE + TECHNOLOGY + ENGINEERING +MATH

- GOAL: higher levels of learning, college and career readiness
- A Pedagogy: An Integrated Approach
- Curriculum is driven by
  - Problem-solving
  - Discovery
  - Exploratory Learning
- Authentic Problems: students actively engage with daily-life/industry like situations to find solutions
- 21st Century Learning Skills
- Training/Licensure:
  - Boot Camp
  - Course Specific Training
- Materials:
  - Software
  - Modules

ARTICULATION AGREEMENTS

University of Wisconsin-Madison- School of Engineering: Student receives 2 college credits upon completion of STEM 101 **Intro to Engineering** and **Principles of Engineering**. Must take both courses to get 2 credits.

Milwaukee Area Technical College: Student can receive up to 8 college credits. 2 credits are awarded for each success assessment in: **3D Solid Modeling**, **Intro to Engineering**, **Principles of Engineering**, and **Industrial Design for Manufacturing**.

Gateway Technical College: Student receives 2 to 4 credits for completion of **3D Solid Modeling**. A grade of C earns 2 credits and a grade of B or higher earns 4 credits.

Madison College currently does not have an articulation agreement with STEM but STEM has indicated that they are in the process of securing articulation opportunities with the above courses.

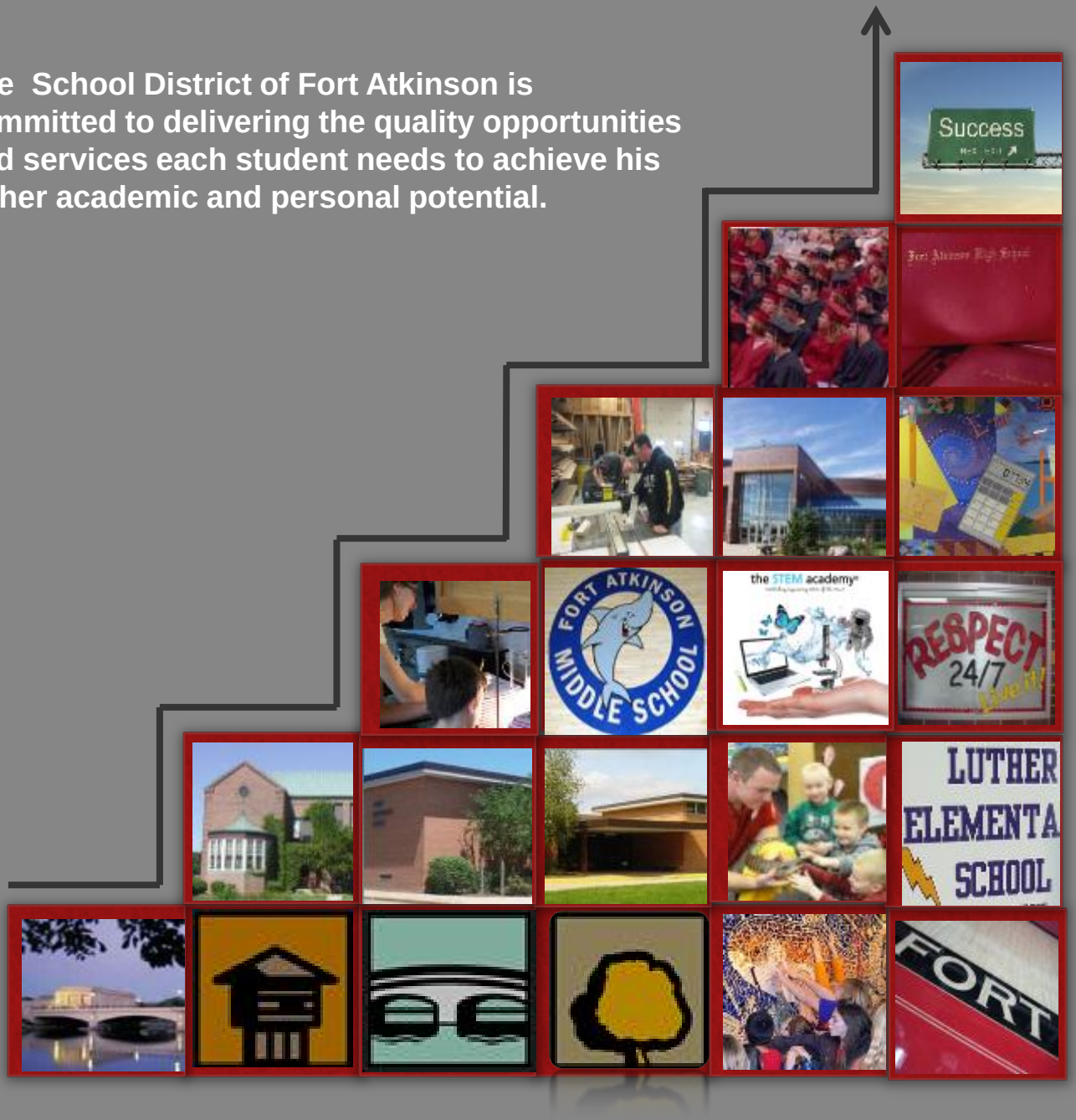
EXISTING/NEW COURSES

Existing Course	Credit /Length	# of sections /enrollment	Proposed Course	Credit /Length
CAD I	.5/sem.	1/19	3D Solid Modeling: CAD	1.0/year
CAD II	1.0/year	0/0		
Computer Graphics	.5/sem.	1/12	No Replacement Course	--/--
CAD/CAM	1.0/year	1/18	Design for Industry & Manufacturing	1.0/year
			Green Technology	1.0/year
			Introduction to Engineering	1.0/year
Total Credits	3.0		Total Credits	4.0
			Principles of Engineering	1.0/year
			Architectural Design with Green Concepts	1.0/year
			Total Credits	2.0

2014-15 Implementation

THE NEXT STEPS

The School District of Fort Atkinson is committed to delivering the quality opportunities and services each student needs to achieve his or her academic and personal potential.



F.A.H.S. COMPUTER SCIENCE ENROLLMENT