



STEM for College & Career Readiness

The Asia Pacific College

Senior High School
Academic Track

United Professionals for the Development and
Advancement of Teacher Education (PATEF-
UPDATE) 13th National Convention
22 November 2016



STEM for College & Career
Readiness

Requirements

- Rationale
- Goals
- Program
- Outcomes
- Plans

Rationale



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Readiness

- Life & Career skills
- Learning & Innovation argumentation (4C)
- Information, media and technology literacy

Core Skills



<http://www.p21.org/>

- Engineering (15%)
- Science & Math (13%)
- Health Science (10%)
- Information Technology (10%)
- Others (52%)

College Readiness



CMO 01. S 2014

- General Skills
- Contact Center
- Information Technology
- Health Informatics
- Gaming and Animation
- Shared Service

Career Readiness



Frost & Sullivan analysis,
IBPAP & member companies

- Life & Career skills
- Learning & Innovation argumentation (4C)
- Informaiton, media and technology literacy
- Key subjects: 3Rs

Core
Skills



<http://www.p21.org/>

Rationale



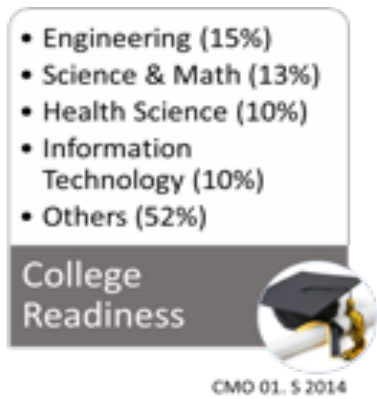
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01U622

Among
priority skills
and
competencies
identified:
[Framework for
21st Century
Learning - P21](#)



<http://www.p21.org/our-work/4cs-research-series>



CHED Priority
Courses for
AY 2014/15
to AY
2017/18

More than 60%
of courses
need
foundation in
STEM

Rationale



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Career
Readiness



Frost & Sullivan analysis, IBPAP
& member companies

IBPAP Roadmap	2016	2022
Global Market Share (%)	12.6	15.5
Mid-high Skills jobs (%)	53	73
Revenue (\$)	22.9B	38.9B
FTE (employment) (‘000)	1,146	1,800

Rationale



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Following specific skills are identified
roles / opportunities in a technology-transformed IT-BPM industry



General Skills

- Critical / Design Thinking
- Project Management
- Basic analytics knowledge (at least SQL)
- Statistical and Quantitative Analysis
- Data visualization



Contact Center

- Big Data Project Managers
- Natural language processing
- Collaborative internet architectures
- Decision support systems performance evaluation
- Machine Learning and Data Mining



Information Technology

- Computer System Analysts
- Computer and information Research Scientists
- Python programming
- Functional industry expertise (core process)
- Natural language processing
- Entrepreneurship & Business Management



Health Informatics

- Health information management
- Functional skills (Radiology, Pharmacology)
- Clinical informatics
- Health chemo-informatics
- Nano-informatics
- Principles of evidence-based clinical practice



Gaming and Animation

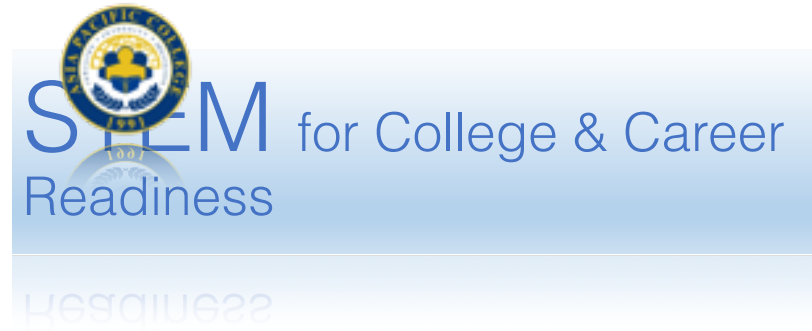
- Virtual reality development experience
- Augmented reality constructs
- Network integration and programming
- Entrepreneurship & Business Management



Shared services

- Mix of skills required with other sectors
- Especially skills required for contact center and IT

Goals



1. Hired graduates of APC Senior High School (SHS) Model, 2012 - 2015
2. Proof of concept of the APC and IBPAP Partnership SHS Model as pipeline for talent required of IT-BPM (2016)
3. Scaled implementation of APC and IBPAP Partnership SHS through extended partnerships with CHED and DepEd (2016 -)

APC SHS Program



STEM for College & Career
Readiness
Guided by APC Core Values

Industry

Real Projects. Real Learning.

- Life & Career skills
- Learning & Innovation argumentation (4C)
- Information, media and technology literacy
- Key subjects: 3Rs

Core
Skills



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Career
Readiness



Frost & Sullivan analysis, IBPAP
& member companies

Innovation

Integrity

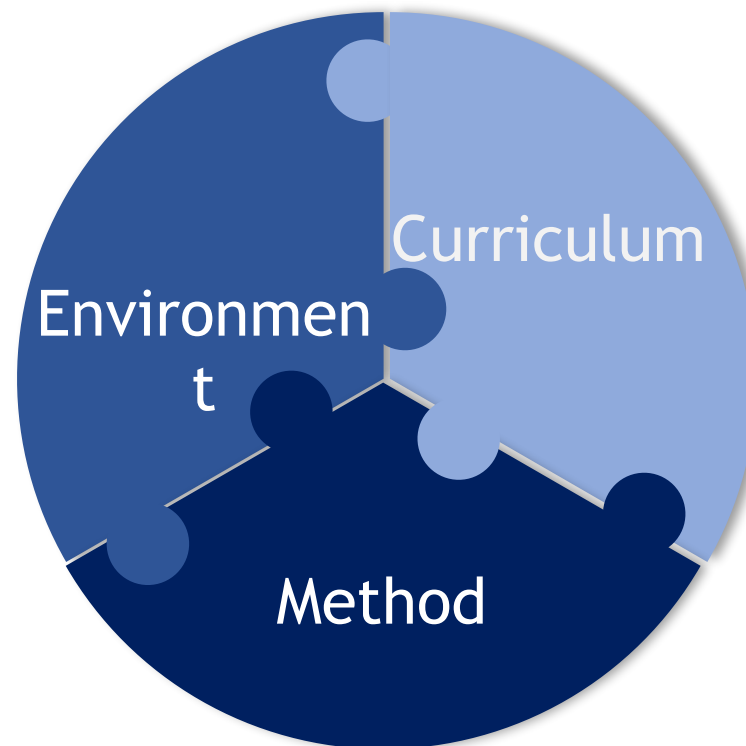


On April 30, 2012 the Business Processing Association of the Philippines (BPA/P) General Members Meeting held at the Makati Shangri-La, a Memorandum of Agreement (MOA) was signed by representatives from BPA/P, Department of Education (DepEd), and the consortium of Asia Pacific College, Don Bosco Schools and TVET Centers, and The Manila Times College to offer Higher School in the presence of Secretary Bro. Armin Luistro.

APC SHS Program



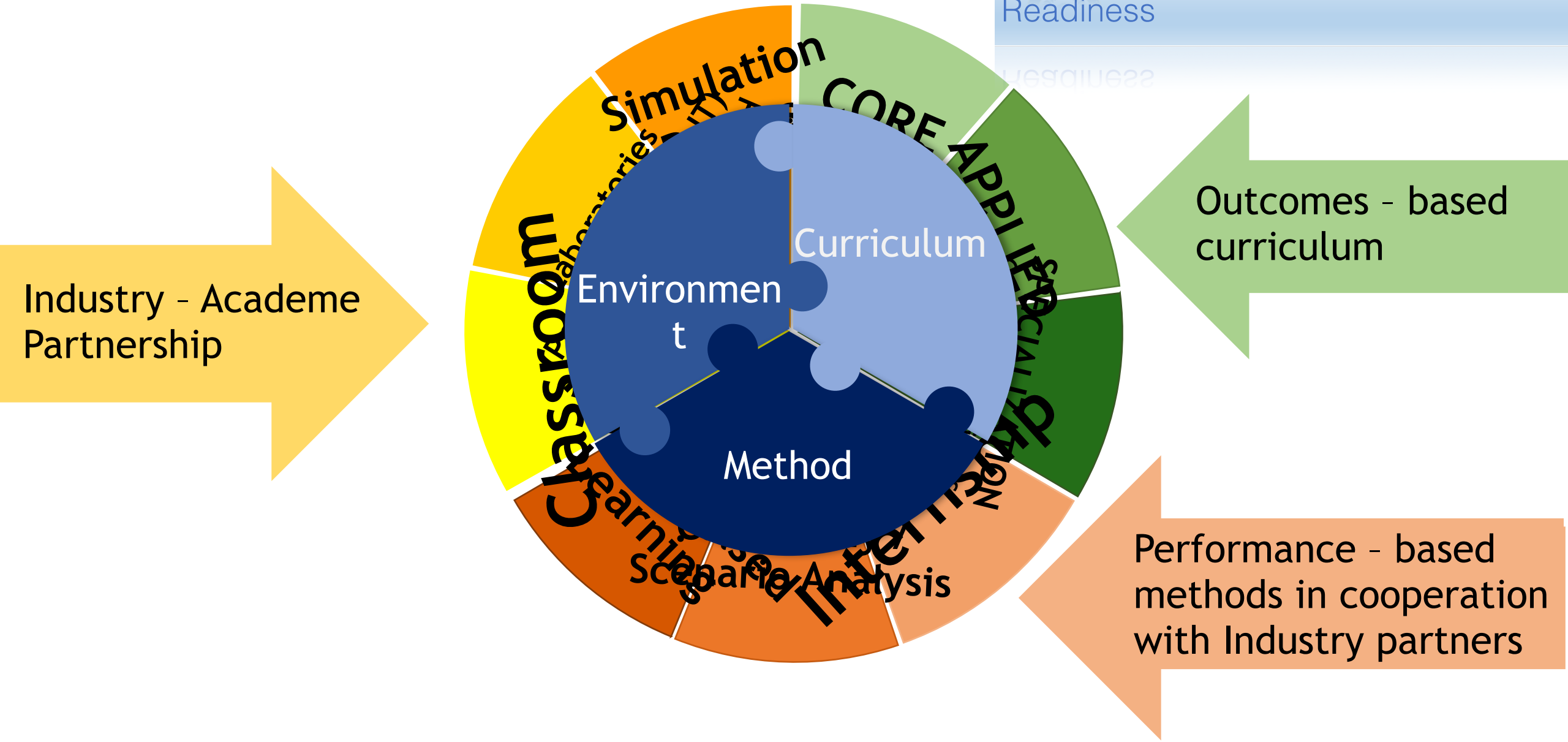
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APC SHS Program



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Industry - Academic
Partnership

Outcomes - based
curriculum

Performance - based
methods in cooperation
with Industry partners

APC SHS Program



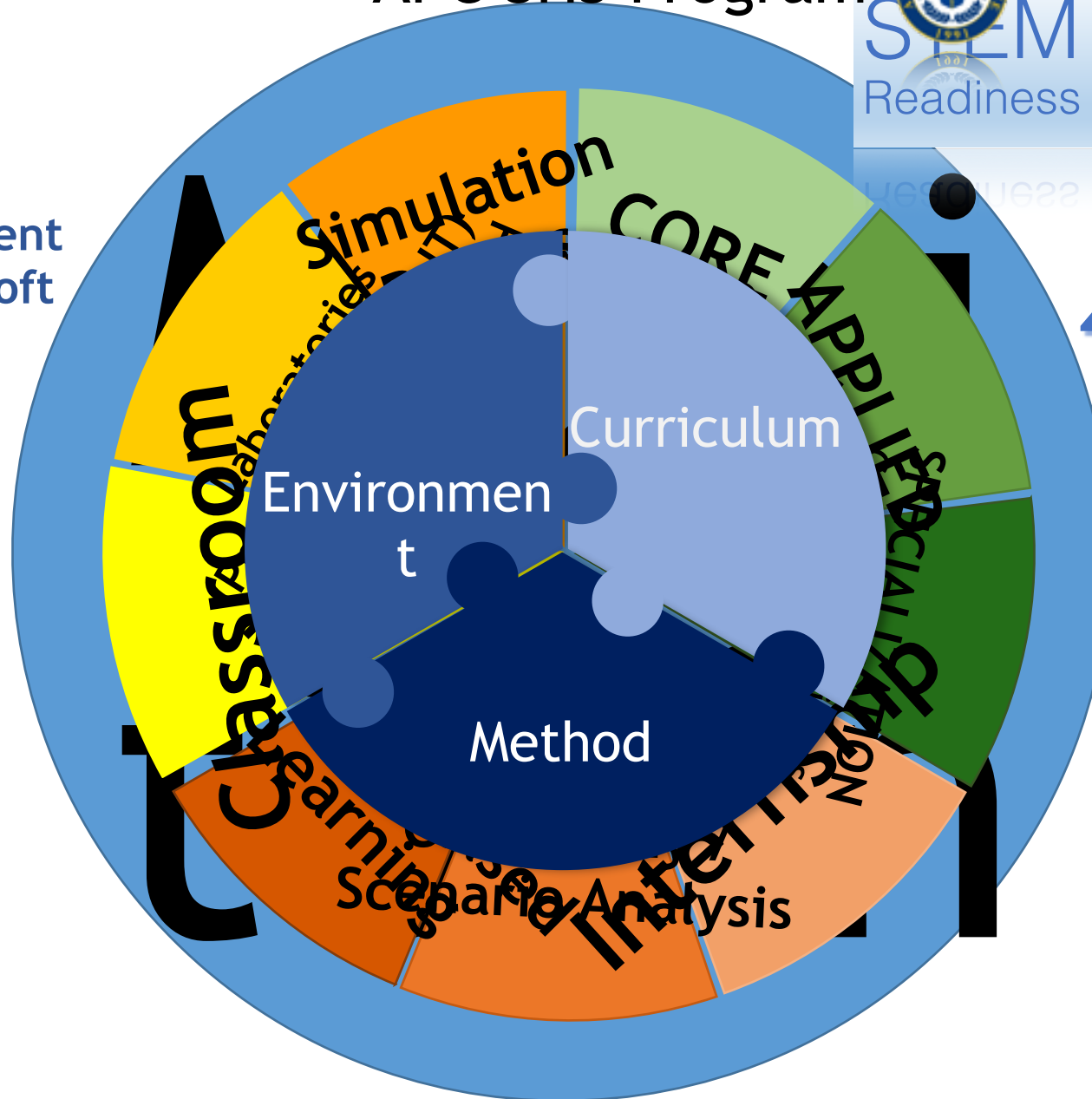
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1 Learning Management
Powered by Microsoft

2 Curriculum Powered
by Industry

3 Immersion &
Authentic
Assessment
Powered by
Industry

4 Industry-led
Faculty
professional
development





APC SHS Program



STEM for College & Career Readiness

1 Learning Management Powered by Microsoft technology

- Office 365
- OneNote
- Sharepoint
- Skype

https://www.apc.edu.ph/microsoft_showcase_schools

Asia Pacific College first to offer senior high school powered by Microsoft

By Joyce Ann Umali

ASIA Pacific College (APC) has collaborated with Microsoft Philippines for the enhancement of its senior high school curriculum. Established in 1991 by the SM Foundation and IBM, the multi-awarded school is the first to graduate Grade 12 students. The MOU was signed by APC board chair Ramon Y. Dimacali and Microsoft Philippines country general manager Karrie C. Ilagan.

Through this collaboration, Microsoft applications and learning resources will be integrated in the APC senior high school curriculum, specifically in Science, Technology, Engineering and Math (STEM) and Accountancy, Business and Management (ABM) strands. Senior high school students will be given the opportunity to acquire Microsoft Certifications such as Microsoft Office Specialist (MOS) and Microsoft Technology Specialist (MTA) on top of their high school diploma.

"Our partnership with APC enables us to deliver solutions that help transform education and create truly connected, immersive learning experiences," said Dondi Mapa, national technology officer



FROM left: Microsoft Philippines national technology officer Dondi Mapa, Microsoft Philippines country general manager Karrie C. Ilagan, APC board chair Ramon Y. Dimacali, APC president Dr. Paulino Y. Tan, and APC board member/SM Investments Corp. corporate services senior vice president Lizanne C. Uychaco.

of Microsoft Philippines. "What is significant about this partnership is that with the integration of Microsoft Certifications for senior high school students, they become qualified to apply for work."

The partnership between APC and Microsoft Philippines comes at an opportune time. In June 2016 all Grade 10 graduates will enter senior high school or Grade 11 as mandated by RA 10533 or the Enhanced Basic Education Act of 2013. With the envisioned success of the program, APC and Microsoft intend to open source the curriculum for other schools who want to integrate IT education and certifi-

cations into the competence of their students.

Being the first academic institution to produce industry-ready senior high school graduates, APC boasts of its industry-based curriculum carefully designed to answer the industry's demand for technically skilled professionals. With the addition of Microsoft Philippines to its long list of industry partners, APC assures its students that they are not only getting quality education and learning experiences that will help them become globally competitive, they are also already qualified for employment when they finish senior high school.





2 Curriculum Powered by Industry

- IBPAP - Service Management
- Accenture - Programming
- RX Secure - Medical Coding
- MS IT Academy Certification

APC SHS Program



STEM for College & Career Readiness

Requirements

31 80-hour subjects, totaling 2,480 hours
(20 Weeks per Semester; 6.2 hours a day)

CORE

15 CORE
SUBJECTS

same
content

same
competencies

CAREER
READINESS

7
Applied
SUBJECTS

different
content

same
competencies

COLLEGE
READINESS

9
Specialization
SUBJECTS

different
content

different
competencies

21st century skills are
integrated

Opportunity for different
Industries to influence
/tweak curriculum to
prepare for workplace skills



APC SHS Program



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Requirements

3 Immersion &
Authentic
Assessment
Powered by
Industry



Benedict Hernandez, BPAP President conducts
FGD with Students



Immersion in Company



Project-based Learning





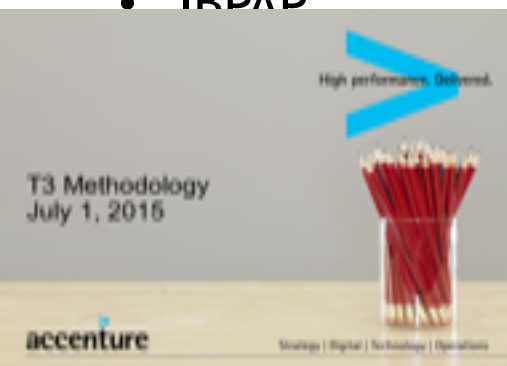
APC SHS Program



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4 Industry-led Faculty professional development

- Accenture
- Microsoft
- Accenture
- RX Secure
- IRDAD



Train-the-Trainer Methodology

Trainer Equipping		Aided Teaching	Independent Teaching
✓ Identify Trainers			
✓ Identify Faculty	Update training materials		✓ Classroom Immersion (74)
✓ Draft materials	✓ Training (12)	✓ Shadowing (6)	✓ Reverse Shadowing (6)
	✓ Teachback (4)	✓ Debriefing (3)	Feedback from Students
	Feedback from CapDev		Checkpoints with CapDev (3)
Total hours = 16		Total hours = 92 80 in the classroom (shadowing + immersion) 6 hours for SME to do reverse shadowing 6 hours for feedback, one after each module	



Program Outcomes



SHS Model for College & Career Readiness

HIRED!

PROVEN MODEL!

1. Hired graduates of APC Senior High School (SHS) Model, 2012 - 2015
2. Proof of concept of the APC and IBPAP Partnership SHS Model as pipeline for talent required of IT-BPM (2016)





Program Outcomes



STEM for College & Career Readiness

Requirements

**SCALE UP
PARTNERSHIP!**

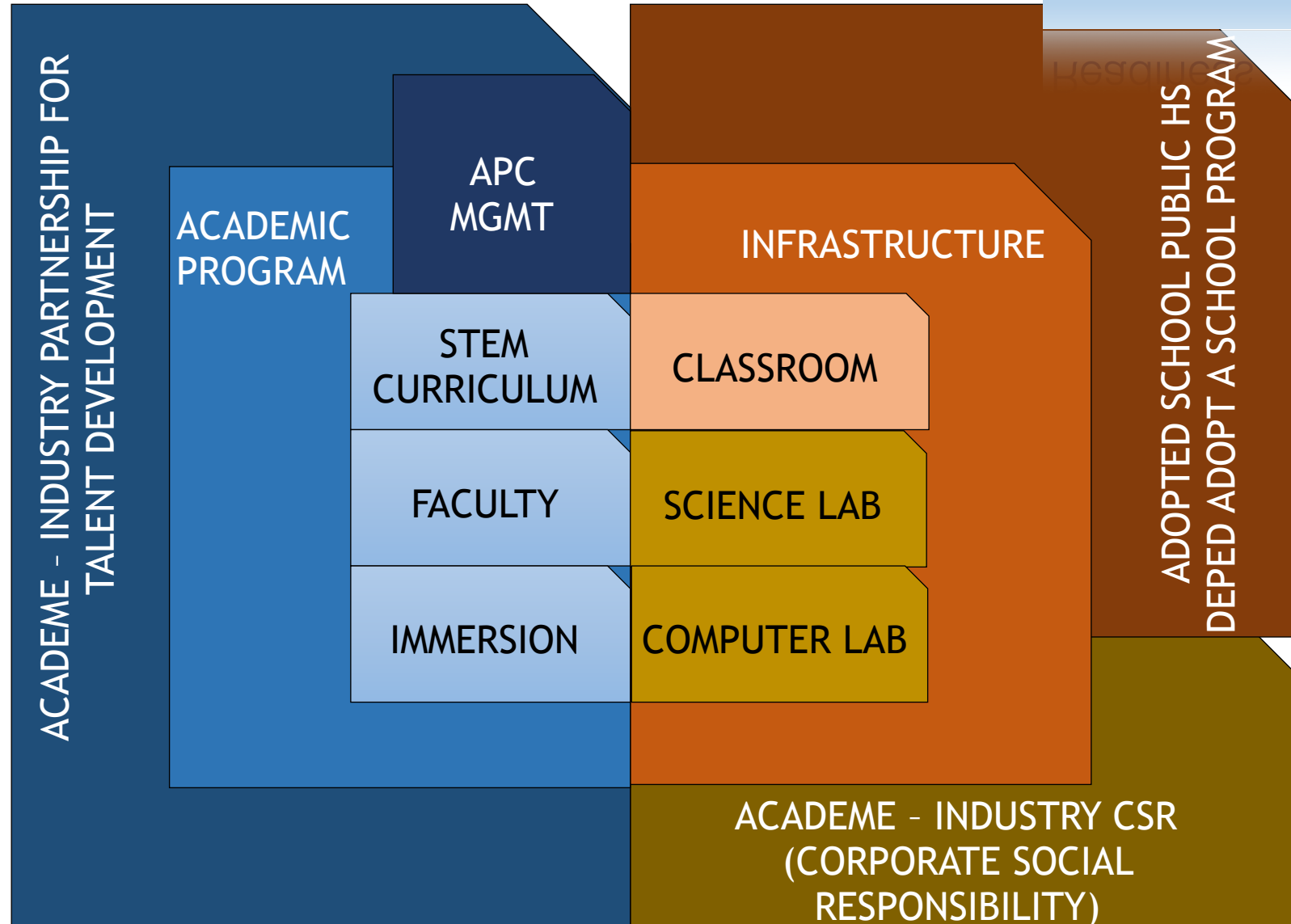
3. Scaled implementation of APC and IBPAP Partnership SHS through extended partnerships with CHED and DepEd (2016 -)

SCALE PARTNERSHIP!

Program Plans



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Real Projects. Real Learning.™

yes! projects yes! results

Thank you.