OBE in Practice at FIBO

Bawornsak Sakulkueakulsuk

Robotics and Automation Engineering
Program Chairperson

ABOUT FIBO

Institute of FIeld roBOtics
King Mongkut's University of Technology Thonburi

1st and only one in Thailand
offers Bachelor's, Master's, and Ph.D. degrees in Robotics and Automation, Master's degree in Technopreneurship.

> 200 research works and academic services

All Faculty, Reseachers, and Engineers with Robotics Expertises

focused on Robotics for Productivity

&

Robotics for Life

Thailand's Center of Robotic Excellence

MISSIONS
Conducts research and academic services along with granting degrees related to Robotics, Automation, and Technopreneurship.

 fibokmutt

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FIBO's Educational Approach

♥	Motivation	- The Will to Learn
	Module System	- Integrative Learning
	Project based	- Learning by Doing & Collaboration

Program Learning Outcomes - SILK

Self & Social Responsibility
- Self Respect
- Social Responsibility
- Professional Ethics

Integrative Thinking
- Systematic Thinking
- Critical Thinking
- Creative Thinking
- Knowledge Integration

Lifelong Learning
- Intrinsic Motivation
- Self Development
- Perseverance

Knowledge & Skill
Technical K&S
- Mechanics
- Electronics
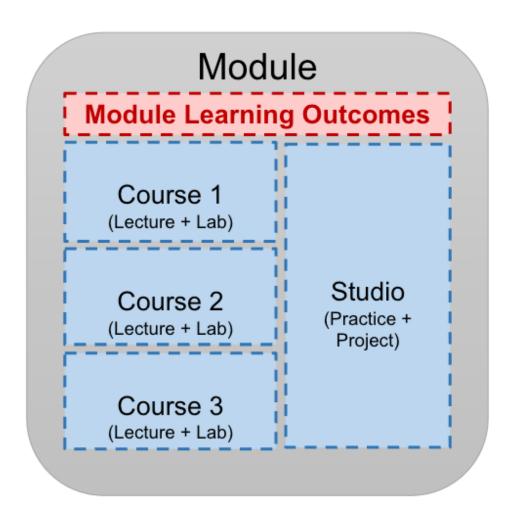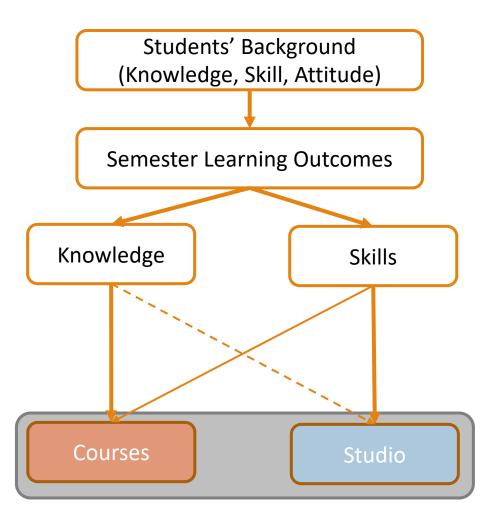- Computer Science
- System Integration

Professional K&S
- Communication
- Teamwork
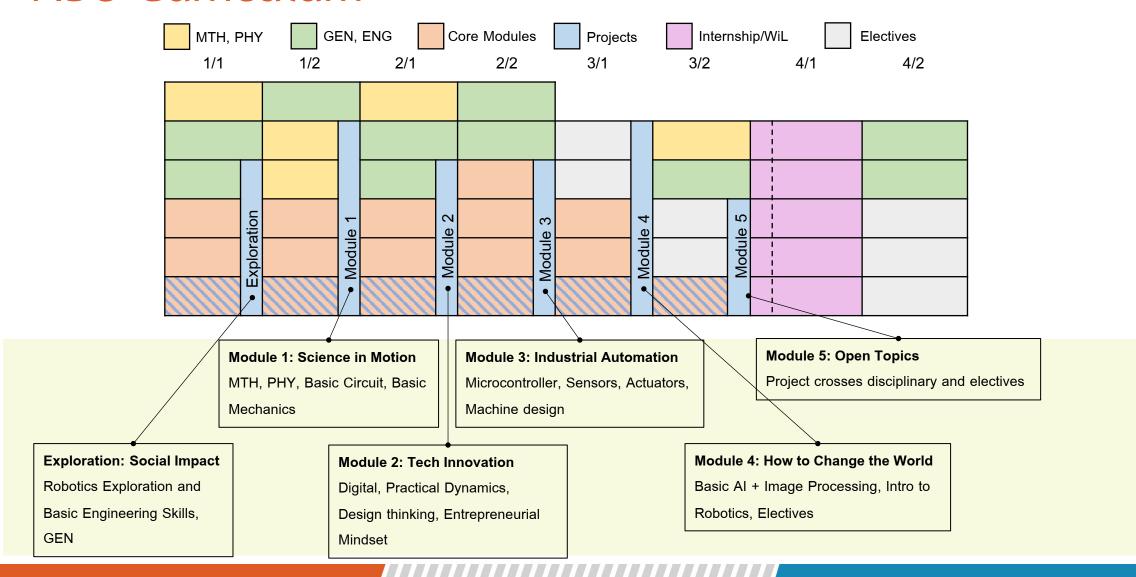- Management
- Professionalism

Semester Structure

FIBO's Multi-layered Curriculum

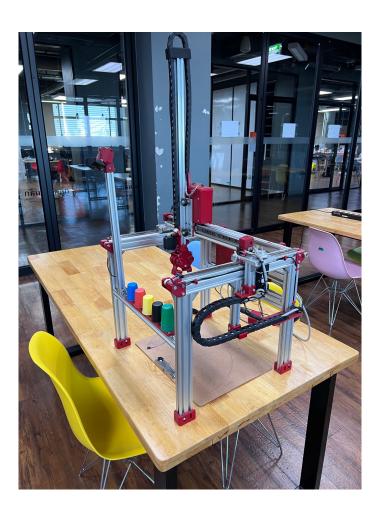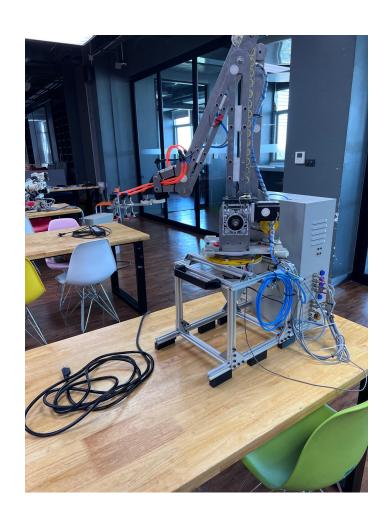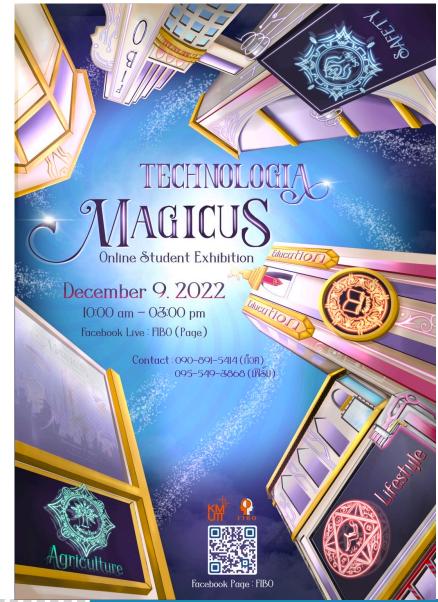| Years	Knowledge & Skills	Career Path	Developments
1st – 2nd	Basic knowledge and skills	Career Exploration	Self-development
3rd - 4th	Advanced, personalized skills	Career Preparation	Societal impact

FIBO Curriculum

Legend: MTH, PHY | GEN, ENG | Core Modules | Projects | Internship/WiL | Electives

Semesters: 1/1 | 1/2 | 2/1 | 2/2 | 3/1 | 3/2 | 4/1 | 4/2

Projects: Exploration | Module 1 | Module 2 | Module 3 | Module 4 | Module 5

Exploration: Social Impact
Robotics Exploration and Basic Engineering Skills, GEN

Module 1: Science in Motion
MTH, PHY, Basic Circuit, Basic Mechanics

Module 2: Tech Innovation
Digital, Practical Dynamics, Design thinking, Entrepreneurial Mindset

Module 3: Industrial Automation
Microcontroller, Sensors, Actuators, Machine design

Module 4: How to Change the World
Basic AI + Image Processing, Intro to Robotics, Electives

Module 5: Open Topics
Project crosses disciplinary and electives

Module 0: Exploration

Module 0: Exploration
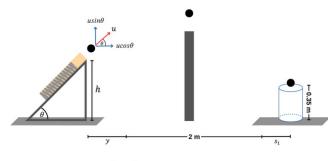
ที่มารูปภาพ : t.ly/FYU-

Module 1: Science in Motion

พิจารณาการเคลื่อนที่ในแนวดิ่ง (แกน y)

พิจารณา $\quad s_y = u_y t + \frac{1}{2}at^2$

โดยกำหนดให้ $\quad s_y = -h + 0.35 \ [m]$

$a = -9.8 \ [m/s^2]$

$u_y = u\sin\theta \ [m/s]$

$t = \dfrac{s_1 + y + 2}{u\cos\theta} \ [s]$

พิจารณาการเคลื่อนที่ในแนวระดับ (แกน x)

พิจารณา $\quad s_x = u_x t$

โดยกำหนดให้ $\quad s_x = s_1 + y + 2 \ [m]$

$u_x = u\cos\theta \ [m/s]$

จะได้ว่า
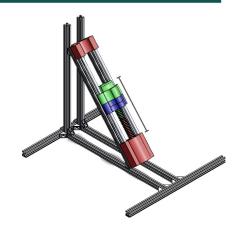
$t = \dfrac{s_1 + y + 2}{u\cos\theta} \ [s]$

จะได้ว่า

$$u = \sqrt{\frac{4.9(s_1 + y + 2)^2}{(h - 0.35 + \tan\theta(s_1 + y + 2))\cos^2\theta}} \ [m/s]$$

CONCEPT DESIGN
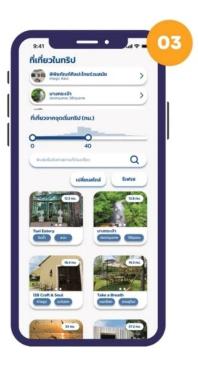
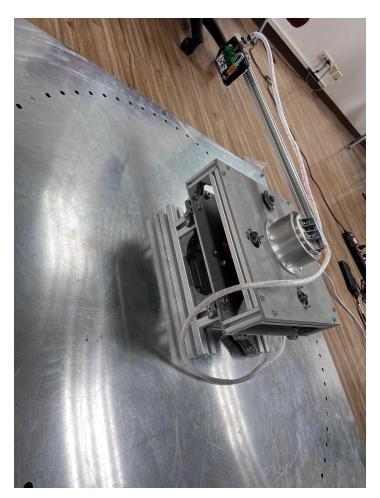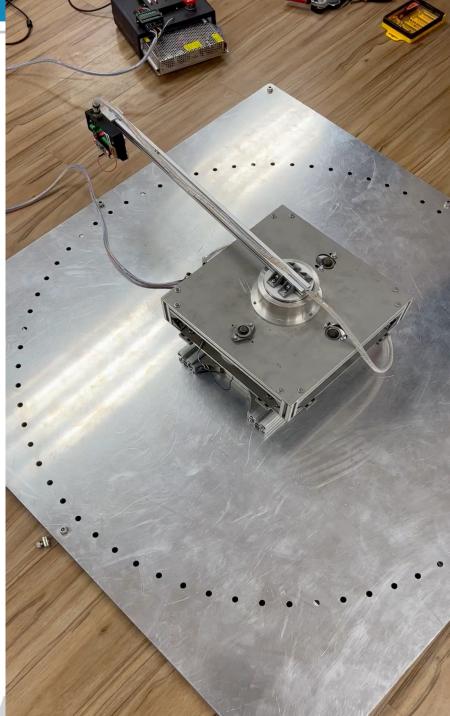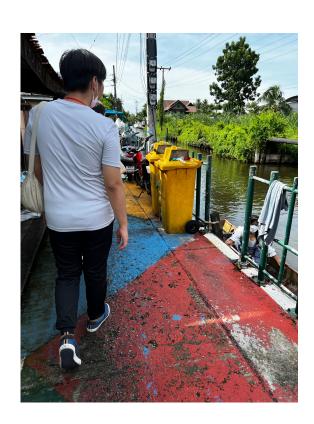# Module 2: Entrepreneurial Mindset

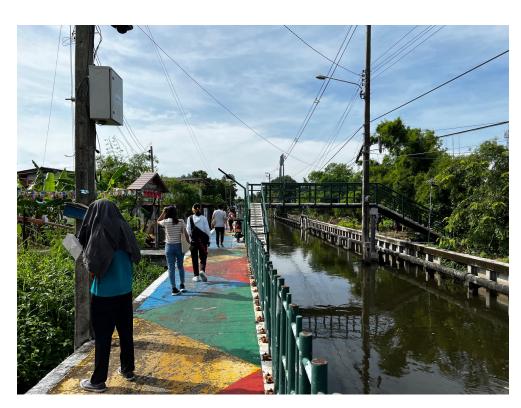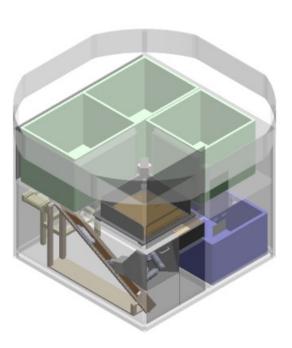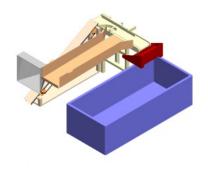# Module 4: How to Change the World

Contact Us

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A Cradle of Future Leaders in Robotics