
การพัฒนาหลักสูตรการเรียนและการฝึกอบรม ระบบสมองกลฝังตัวสำหรับประเทศไทย

Embedded System Curriculum and Training Course Development for Thailand

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ห้องปฏิบัติการวิจัยเชิงประยุกต์ระบบสื่อสารและสมองกลฝังตัว

CAESAREA : Communication And Embedded System Application Research Laboratory

ภาควิชาวิศวกรรมไฟฟ้า คณะวิศวกรรมศาสตร์ มหาวิทยาลัยเกษตรศาสตร์

Development Concept : Curriculum

➤ Short Term

- ❖ Base on existing related curriculum
- ❖ Adapt for many application field
- ❖ From Theory to Application
- ❖ From Design to Prototype

➤ Long Tem

- ❖ Design for many specific requirement
- ❖ Integrity
 - ❑ Agriculture/Irrigation , Automotive , Electronics Appliance , Computer/Communication Equipment , Automation etc.

Development Concept : Training Course

- Theory & Lab.

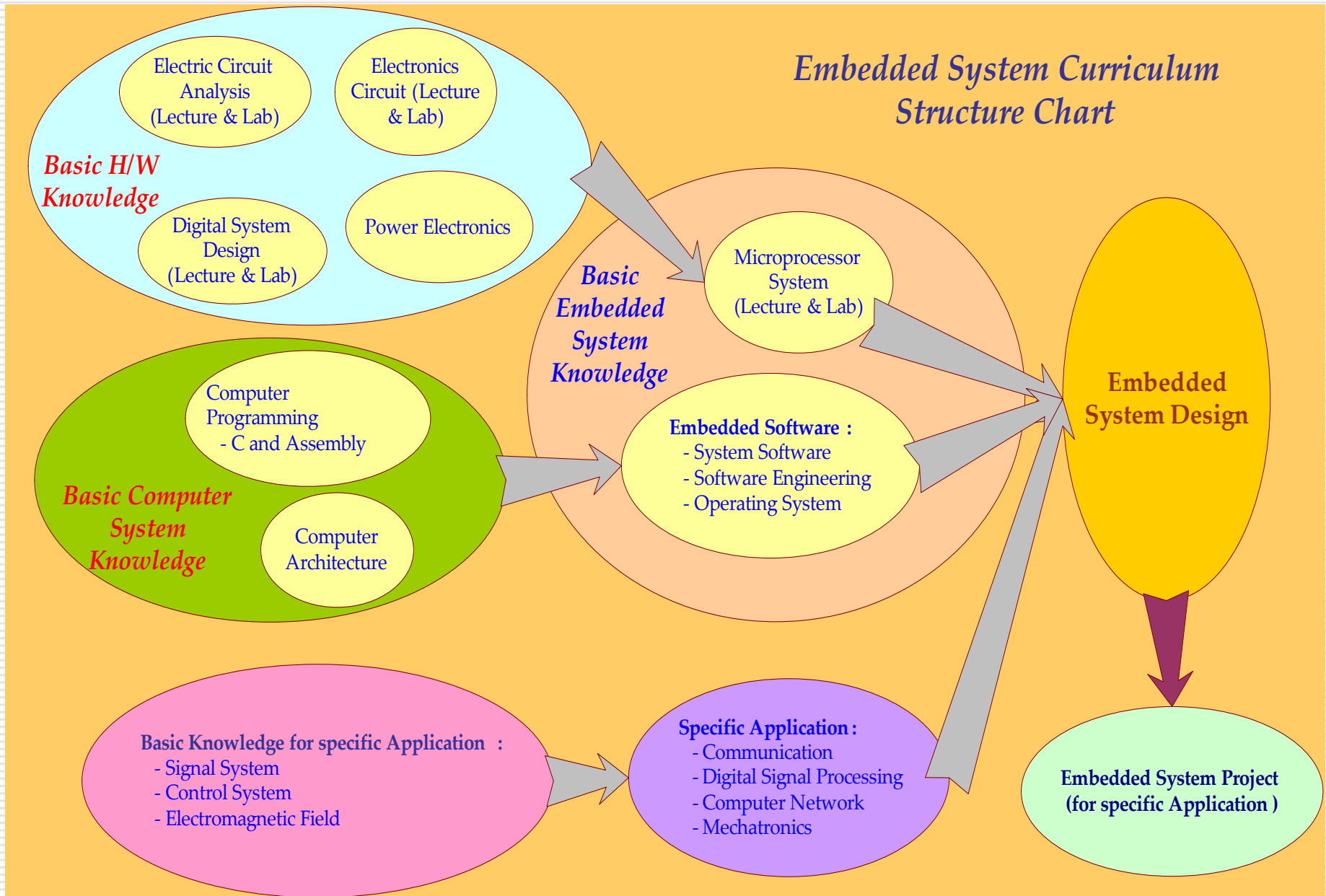
- Simple and Advance Embedded systems design

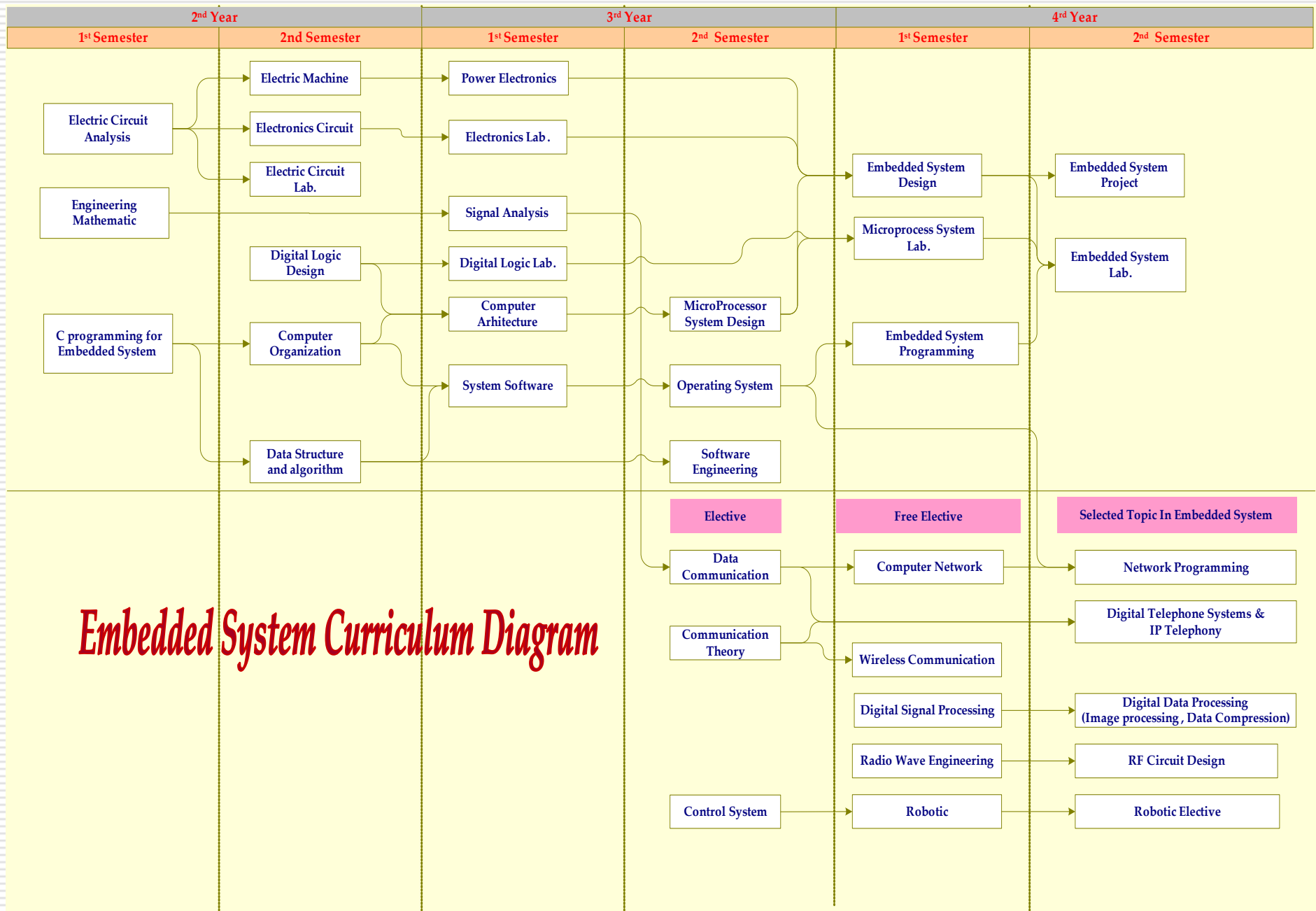
- Complete Development Cycle
 - ❖ Design
 - ❖ Programming
 - ❖ Testing

Embedded System Curriculum : Bachelor Degree

- I. Basic Hardware Knowledge**
- II. Basic Computer System Knowledge**
- III. Basic Embedded System Knowledge**
- IV. Basic Knowledge for Specific Application**
- V. Specific Application Knowledge**
- VI. Embedded System Design**
- VII. Embedded System Project**

Embedded System Curriculum Structure Chart





Embedded System Curriculum Diagram

Embedded System Training Course

- Introduction to Embedded System
 - ❖ Hardware and Software Structure
 - ❖ Development Tool and Development Cycle
 - ❖ Embedded Software Programming

- Embedded System Design
 - ❖ SW/HW Design and Prototype Testing
 - ❖ Low & High Performance MCU/MPU

- Operating System
 - ❖ Theory & Practical
 - ❖ General Purpose Operating System (GPOS)
 - ❖ Real-Time Operating System

- Embedded System Project
 - ❖ Application Specific
 - ❖ Complete R&D Prototype

Training Course : TESA (www.tesa.or.th)

- **Introduction to Embedded System and Embedded System Programming**
- **Small Scale Microcontroller for Embedded System**
- **Real-Time Operating System**
- **Small Scale Embedded System Application**
- **Advanced Digital Circuit Design**
- **Advanced Operating System**
- **Large Scale Processor for Embedded System**
- **Development of Application-Specific Embedded Systems**

Question & Answer

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