

# GRADUATE CERTIFICATE ..... **IN** ..... **CYBER-PHYSICAL SYSTEMS**

**RECOGNIZES THE ACQUISITION OF CYBER-PHYSICAL SYSTEMS KNOWLEDGE AND SKILLS THROUGH THE COMPLETION OF TARGETED COURSES.**

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**The Graduate Certificate in Cyber-Physical Systems requires 5 courses/15 credit hours of graduate level courses as outlined below.**

**Required Core Course: 3 credits**

*All students will take the following:*

- **CPS1: Communication, Test-Beds & Policy (3 credits) - ENGR 6559 / CE 6500 / CS 6501 / MAE 6592 / SYS 6581**

**Required Cyber-Physical Systems Courses: 6 credits**

*All students will select two of the following courses:*

- **CPS2: Advanced Embedded Systems (3 credits) - ECE 6501 / CS 6501**
- **CPS3: Signal Processing, Machine Learning, and Control (3 credits) - CS 6762 (previously CS 6501)**
- **CPS4: Dynamical Systems (3 credits) - MAE 6592 / CE 6500**
- **CPS5: Formal Methods, Safety, and Security (3 credits) - CS 6763 / SYS 6763 (previously CS 6501 / SYS 6582)**

**Restricted Electives: 6 credits**

*All students will select two courses from a list of Approved In-Depth CPS Courses (list updated each semester)*

**APPLICATION IS AVAILABLE HERE:  
[ENGINEERING.VIRGINIA.EDU/LINK-LAB/EDUCATION](http://ENGINEERING.VIRGINIA.EDU/LINK-LAB/EDUCATION)**



**SMART  
CITIES**



**SMART  
HEALTH**



**AUTONOMOUS  
SYSTEMS**



**HARDWARE  
FOR IoT**