# DIGITAL INTEGRATED CIRCUIT DESIGN - CERTIFICATE

Through the Digital Integrated Circuit Design certificate program, students will gain comprehensive knowledge and hands-on training in digital integrated circuit design, spanning from transistor-level intricacies to computer architecture principles. This program will help students understand essential design concepts, such as standard cells and pipelining, and be familiar with circuit evaluation criteria such as timing performance and power dissipation. Moreover, students will become proficient in utilizing Electronic Design Automation (EDA) tools for circuit logic synthesis and physical design. Upon successfully completing the certificate program, students will possess the expertise to design digital integrated circuits of moderate complexity.

## Program Requirements

| Code | Title | Semester Credit Hours |
|---|---|---|
| ECEN 714 | Digital Integrated Circuit Design | 3 |
| Select four of the following: [1] | | 12 |
| ECEN 651 | Microprogrammed Control of Digital Systems | |
| ECEN 653 | Computer Arithmetic Unit Design | |
| ECEN 676 | Advanced Computer Architecture | |
| ECEN 719 | Advanced Digital System Design | |
| ECEN 722 | Field Programmable Gate Arrays Information Processing Systems | |
| ECEN 749 | Microprocessor Systems Design | |
| ECEN 752 | Advances in VLSI Circuit Design | |
| **Total Semester Credit Hours** | | **15** |

[1] Four courses are required, and the total SCHs may exceed 15 if 4-credit elective courses are included in the program.