

ELECTRONIC DESIGN MINOR (Digital Design + Computation)

School of Building Arts

Savannah College of Art and Design

Digital Design + Computation (Electronic Design) Minor:

The Electronic Design Minor allow students in the School of Building Arts to expand the intellectual and technical skills needed to design, analysis and synthesize effective 2 Dimensional and 3 Dimensional form and space typology. It focus on the utilization of variety of digital design rapid prototyping techniques in the design process leading to effective collaborative and communication skills for the Building Arts Profession.

The Electronic Design Minor's course of study consists of 40 credit hours (8-Electronic Design Courses) that covers a wide range of digital design application utilizing state of the art high technology resources at the Savannah College of Art and Design. Students gain conceptual understanding and technical experience toward utilizing variety of digital design tools applicable in architecture, interior architecture and historic preservation fields.

Curriculum 40 hours

ELDS 225 Electronic Design I
 ELDS 325 Electronic Design II
 ELDS 330 Visualization in Electronic Design I
 ELDS 430 Visualization in Electronic Design II
 ELDS 425 Electronic Design Practice and Project Management
 ELDS 475 Electronic Design Simulation and Communication
 Electronic Design Elective: 300 level or above course with computing emphasis***
 Approval from director of ELDS.

Please contact Ming Tang, the Direct of ELDS (Digital Design + Computation) with mtang@scad.edu

Undergraduate Course #	Graduate Course #	Course name	Pre-requisite	Software	Content
ELDS 225	ELDS 704	ELDS I	DRAW 112 / FURN 111 / HIPR 101 / INDS 100	AutoCAD Revit Sketch Up	Drafting 3D modeling BIM
ELDS 325	ELDS 708	ELDS II	ELDS225	Micro Station	drafting and rendering
ELDS 330	ELDS 713	Visualization I in ELDS	ELDS 225	Adobe Photoshop	digital graphics
ELDS 425	ELDS 727	ELDS practice and project management	ELDS 225	Autodesk Revit	Building Information Model
ELDS 430	ELDS 716	Visualization II in ELDS	ELDS 330	Dream weaver, Flash	web3D, web design and multimedia
ELDS 450	ELDS 750	Spatial simulation in ELDS	ELDS 225	Maya	advanced 3D modeling (offer twice a year,)
ELDS 306	ELDS720	Electronic Implementation for Urban Design	ELDS 225	ESRI GIS	Geography Information System (offer twice a year)
ELDS 475	ELDS 775	ELDS simulation & communication	ELDS 225	3DS MAX	3D animation and video editing
ELDS 440	ELDS 740	Digital Applications for Building Performance	ELDS 425/727	Ecotect. IES. Green Studio	building performance analysis
ELDS 445	ELDS 745	Digital Prototyping and Fabrication Methods	ELDS 225	Rhino, Grasshopper	Digital fabrication.

ELDS 225 / 704: Electronic Design I

This course introduces students to personal computer usage related to the building design professions. The class covers the use of network operating systems, operating systems, e-mail, word processing, digital manipulation of scanned images, 2-D drafting, and 3-D modeling to communicate building-oriented form.

ELDS 306 / 720: Electronic Implementation for Urban Design

This course introduces students to the use of computers for assessment and representation of the environmental landscape, as applied to urban design and development. The GIS system is introduced. Data collection, assessment and synthesis are incorporated as components of the urban design and development process.

ELDS 325 / 708: Electronic Design II

This course emphasizes managing and communicating design data, tools and presentation information during the three phases of the design process: programmatic design, schematic design and design development. Students utilize several 3-D design tools. In addition, desktop publishing, Web authoring, rendering tools, digital manipulation tools and digital cameras enable students to effectively communicate form and space related to either the building arts or the product-based design professions.

ELDS 330 / 713: Visualization in Electronic Design I

This course explores the use of visualization and 3-D design-based software, focusing on their applications within the building arts. Students are expected to gain an in-depth knowledge of effective communication formats such as raster graphics for the presentation of form and space.

ELDS 425 / 727: Electronic Design Practice and Project Management

This course teaches principles of practice and project management related to product and/or building documentation. Students apply CAD to produce the electronic documentation of product, form and space that is utilized by the building and product design professions for 3-D construction documents.

ELDS 430 / 716: Visualization in Electronic Design II

This course focuses on the development of electronic-based design documentation, presentation and communication within the building arts professions. Attention is paid to the major areas of Web design and authoring, as well as Web-based animation uses through the Internet. Students are expected to learn to assess the aesthetic and technical aspects of Web-based design tools.

ELDS 450 / 750: Spatial Simulation in Electronic Design

This course will focus on Virtual 3d design with a variety of representation modes associated with the building arts design process. Building related modeling, environment lighting, interior/exterior materials, mapping, rendering, interactive 3d and web publishing for the purpose of representation and communication will be presented.

ELDS 475 / 775: Electronic Design Simulation and Communication

This course explores the methodology involved in applying electronic simulation and communication tools to the design process. Students are expected to learn in-depth techniques for 3-D modeling, applied knowledge on simulation-oriented rendering and animation tools, and digital image manipulation tools. They produce presentations for the three phases of an electronic design process--programmatic, schematic and design development.

ELDS 440 / 740: Digital Applications for Building Performance

This course explores advanced Building Information Modeling (BIM) topics that introduce students to various software applications that allow for digital prototyping and building performance analysis. The course focuses on principles of sustainable practice as they relate to energy use and also investigate the structural behavior of form.

ELDS 445 / 745: Digital Prototyping and Fabrication Methods

This course teaches fundamental principles of digital prototyping and fabrication methods for architecture and building. It focuses on the inherent value of digital prototypes to evaluate the viability and performance of the design intent with respect to material selection and method of assembly. In addition, the course will explore techniques of digital fabrication and the implications on assembly. Students will use a variety of digital techniques to evaluate, document, fabricate, and assemble series of architectural components at various scales and material.