

DIGITAL ARTS AND SCIENCES | BACHELOR OF SCIENCE

The digital arts and sciences (DAS) program crosses college boundaries between engineering and the arts. This degree is an interdisciplinary engineering program.

About this Program

- **College:** Herbert Wertheim College of Engineering
- **Degree:** Bachelor of Science in Digital Arts and Sciences
- **Credits for Degree:** 120
- **Additional Information**
- **Related Digital Arts and Sciences Programs**

To graduate with this major, students must complete all university, college, and major requirements.

The Digital Arts and Sciences (DAS) degree is a core computer science degree with special emphasis on human-centered computing, which includes art, design and computing courses that are related to digital media, interaction and communication.

Graduates will be well versed in issues and solutions for basic art techniques and graphic art design as well as modeling 3D virtual worlds. The DAS graduate also will be well versed in collaborative multidisciplinary team models. Intermediate and final class projects are centered around a balanced-team composition focusing on multimedia productions.

Department Requirements

Students must complete all critical-tracking courses with minimum grades of C in each course and the critical-tracking GPA must be 2.5 or higher. A minimum grade of C is required in all other courses that are prerequisites to a required course:

| Code | Title | Credits |
|----------|---|---------|
| CAP 3027 | Introduction to Digital Arts and Sciences | 3 |
| CDA 3101 | Introduction to Computer Organization | 3 |
| COP 3502 | Programming Fundamentals 1 | 3 |
| COP 3530 | Data Structures and Algorithm | 4 |
| COP 4600 | Operating Systems | 3 |
| COT 3100 | Applications of Discrete Structures | 3 |
| MAS 3114 | Computational Linear Algebra | 3 |

In addition, CISE requires all DAS students to maintain a cumulative, upper-division and department GPA minimum of 2.0.

Students who do not meet these requirements will be placed on academic probation and will be required to prepare a probation contract with a CISE advisor. Students normally are given two terms in which to remove their deficit points or to remedy their probation status; however, students who do not satisfy the conditions of the first term of probation may be dismissed from the department.

Related Digital Arts and Sciences Programs

- Combined Degree
- Bachelor of Arts in Digital Arts and Sciences
- Digital Arts and Sciences minor

Critical Tracking

Critical Tracking records each student's progress in courses that are required for entry to each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- Complete 1 of 8 critical-tracking courses with a minimum grade of C within two attempts: ARH 2051, CHM 2045 or CHM 2095, MAC 2311, MAC 2312, MAC 2313, MAP 2302, PHY 2048, PHY 2049
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course with a minimum grade of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 2 additional critical-tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 2 additional critical-tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all 8 critical-tracking courses with minimum grades of C in each course within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Model Semester Plan

Students are expected to complete the general education international (GE-N) and diversity (GE-D) requirements. This is often done concurrently with another general education requirement (typically, GE-C, H or S).

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's

academic record and scheduling availability of courses. Prerequisites still apply.

| Course | Title | Credits |
|---|---|---------|
| Semester One | | |
| Select one: | | 3 |
| CHM 2045 | General Chemistry 1 (Critical Tracking ; Gen Ed Physical Sciences) | |
| CHM 2095 | Chemistry for Engineers 1 (Critical Tracking) | |
| COP 3502 | Programming Fundamentals 1 | 3 |
| IUF 1000 | What is the Good Life (Gen Ed Humanities) | 3 |
| MAC 2311 | Analytic Geometry and Calculus 1 (Critical Tracking ; State Core Gen Ed Mathematics) | 4 |
| | Credits | 13 |
| Semester Two | | |
| CAP 3032 | Interactive Modeling and Animation 1 | 3 |
| COP 3503 | Programming Fundamentals 2 | 3 |
| MAC 2312 | Analytic Geometry and Calculus 2 (Critical Tracking ; Gen Ed Mathematics) | 4 |
| PHY 2048 | Physics with Calculus 1 (Critical Tracking ; State Core Gen Ed Physical Sciences) | 3 |
| PHY 2048L | Laboratory for Physics with Calculus 1 (Gen Ed Physical Sciences) | 1 |
| State Core Gen Ed Social and Behavioral Sciences | | 3 |
| | Credits | 17 |
| Semester Three | | |
| CAP 3220 | Introduction to Computer-Aided Modeling | 3 |
| COT 3100 | Applications of Discrete Structures | 3 |
| MAC 2313 | Analytic Geometry and Calculus 3 (Critical Tracking ; Gen Ed Mathematics) | 4 |
| PHY 2049 | Physics with Calculus 2 (Critical Tracking ; Gen Ed Physical Sciences) | 3 |
| PHY 2049L | Laboratory for Physics with Calculus 2 | 1 |
| | Credits | 14 |
| Semester Four | | |
| ARH 2051 | Introduction to the Principles and History of Art 2 (Critical Tracking ; Gen Ed Humanities and International) | 3 |
| CAP 3034 | Introduction to Computer-Aided Animation | 3 |
| COP 3530 | Data Structures and Algorithm | 4 |
| MAP 2302 | Elementary Differential Equations (Critical Tracking) | 3 |
| Gen Ed Social and Behavioral Sciences | | 3 |
| | Credits | 16 |
| Semester Five | | |
| CAP 3027 | Introduction to Digital Arts and Sciences | 3 |
| CEN 3031 | Introduction to Software Engineering | 3 |
| MAS 3114 or MAS 4105 | Computational Linear Algebra or Linear Algebra 1 | 3 |
| PHI 2010 | Introduction to Philosophy (State Core Gen Ed Humanities; Writing Requirement: 6,000 words) | 3 |
| Interdisciplinary elective (Gen Ed Composition; Writing Requirement: 6,000 words) | | 3 |
| | Credits | 15 |
| Semester Six | | |
| ART 2305C | Perceptual Drawing | 3 |
| CAP 3020 | Theory and Practice of Multimedia Production | 3 |
| COT 4501 | Numerical Analysis: a Computational Approach | 3 |
| CISE elective | | 3 |

| | | |
|-----------------------------|--|-----|
| Interdisciplinary elective | | 3 |
| | Credits | 15 |
| Semester Seven | | |
| ART 2701C | Sculpture: Shaping Form and Space | 3 |
| CAP 4800 or CIS 4930 | or Special Topics in CISE | 3 |
| ENC 3246 | Professional Communication for Engineers (State Core Gen Ed Composition; Writing Requirement: 6,000 words) | 3 |
| CISE elective | | 3 |
| Interdisciplinary elective | | 3 |
| | Credits | 15 |
| Semester Eight | | |
| CAP 4730 | Computational Structures in Computer Graphics | 3 |
| CIS 4914 | Senior Project | 3 |
| COP 4020 or COP 4600 | Programming Language Concepts or Operating Systems | 3 |
| Interdisciplinary electives | | 6 |
| | Credits | 15 |
| | Total Credits | 120 |

Academic Learning Compact

The major crosses college boundaries between engineering and the arts. This degree is an interdisciplinary engineering program combining developing skills in art and computers. Students will be well-versed in issues and solutions for basic art technique and graphic art design, as well as modeling 3D virtual worlds. Students will be experienced in collaborative multidisciplinary teams, compositions and projects focusing on multimedia productions.

Before Graduating Students Must

- Pass assessment of performance on a major design experience, according to department grading rubric.
- Pass assessment in one or more core courses of individual assignments targeted to each SLO.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to Student Learning Outcomes (SLOs)

Content

1. Apply knowledge of mathematics and science to computer science problems.
2. Apply knowledge of multimedia, human-computer interaction, computer graphics and simulation to application domains.

Critical Thinking

3. Design a human-computer interface involving animation, sound and immersive virtual environments.

Communication

4. Communicate technical information in a collaborative team environment.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

| Courses | SLO 1 | SLO 2 | SLO 3 | SLO 4 |
|----------|-------|-------|-------|-------|
| CAP 4730 | I, A | I, A | | |
| CEN 3031 | | | | I, A |
| CIS 4914 | A | A | A | A |

Assessment Types

- Assignments
 - Exams
 - Reports
 - Exit survey
-