Digital Narrative and Interactive Design Major

The Digital Narrative and Interactive Design major (DNID) harnesses the narrative, world-building, and media studies strengths of the English department and the coding, software development, and human computer interface strengths of the School of Computing and Information. It draws upon existing initiatives in game design at SCI and critical game studies, making, and media production within the English department. Students will learn how to build interactive narrative systems such as games, interactive literature, virtual reality environments and other interactive media experiences in a variety of fields. They will learn to creatively combine design with narrative, code with story. This uniquely positions majors in today's workforce: game and interactive media design is booming in nearly every field and sector. What these positions require, and what is currently in short supply, are individuals capable of both understanding the intricacies of narrative and implementing that knowledge in the form of computational media (coded interactive systems).

The DNID major is managed jointly by the Dietrich School of Arts and Sciences and the School of Computing and Information. This program offers training that builds a solid foundation in English (Writing, Composition, Film and Media Studies, and Literature), Computer Science, and Information Science.

### Required courses for the Digital Narrative and Interactive Design major

The Digital Narrative and Interactive Design major requires the completion of at least 40 credits distributed as follows.

- **Gateway course; choose one course**
  - ENGCMP 0425 or HAA 0425 Digital Humanity
  - ENGLIT 0512 Narrative and Technology

- **Composition; choose one course**
  - ENGCMP 0610 Composing Digital Media
  - ENGCMP 1201 or ENGLIT 1201 or CMPINF 1201 Digital Narrative and Interactive Design

- **Programming basis; choose one course**
  - CS 0010 Introduction to Computing for Systems Engineers
  - CS 0011 Introduction to Computing for Scientists
  - CS 0012 Introduction to Computing for the Humanities
  - INFSCI 0419 Python for Data Management and Analytics

- **Intermediate programming; choose one course**
  - CS 0401 Intermediate Programming Using Java
  - INFSCI 0017 Fundamentals of Object-Oriented Programming

- **Interaction and narrative; choose one course**
  - ENGLIT 0512 Narrative and Technology*
  - ENGLIT 0702 Introduction to Game Studies
  - ENGLIT 1001 Interactive Literature
  - ENGLIT 1002 Game, Story, Play

* If not used as the Gateway course.

- **Media literacy; choose one course**
  - ENFLM 0355 or FMST 0100 Visual Literacy
  - ENFLM 0570 or FMST 0505 Introduction to New Media
  - ENFLM 1680 or FMST 1510 Animation

- **Data literacy; choose one course**
  - CS 0445 Data Structures
  - INFSCI 1022 Database Management Concepts and Applications

### Electives

The departments recommend that students pursuing this major choose one of the following tracks. Complete two courses in School of Computing and Information courses and two Dietrich School of Arts and Sciences courses in the chosen track.

- **Online Media track**
  - The Online Media track skills will range from developing digital format narrative to communicate on behalf of organizations (for-profit or non-profit) and innovating online interactions to creating and critically analyzing content and data across the variety of specific digital formats. Students completing this track will be able to design distribution vectors for digital content, propose solutions to design and implementation challenges, and ultimately design media-rich web and mobile app content and implement their use.

- **School of Computing and Information courses; choose two courses**
  - CS 0590 Social Implications of Computing Technology
  - CS 1520 Programming Languages for Web Applications
  - INFSCI 1024 Analysis of Information Systems
  - INFSCI 1044 Human Factors in System Design
  - INFSCI 1052 User-Centered Design
  - INFSCI 1068 Geographic Information Systems

- **Dietrich School of Arts and Sciences courses; choose two courses**
  - ENGCMP 0520 Integrating Writing and Design
  - ENGCMP 1112 Professional Uses of Social Media
  - ENGCMP 1130 Projects in Digital Composition
  - ENFLM 0570 or FMST 0505 Introduction to New Media
  - ENFLM 0812 or ENGLIT 0812 or FMST 0762 Media/Ecology
  - ENGLIT 1001 Interactive Literature
  - ENGLIT 1412 Secret Pittsburgh
  - ENGWRT 1377 Media Literacy
  - ENGWT 1403 Topics in Electronic Media
  - ENGWT 1501 Topics Creative Writing
  - GSW 1210 Gender and the Digital
**Game Design track**
The Game Design track focuses on situating game production, advertising, and playing into current and historical social and cultural contexts. Coursework analyzes and evaluates the relationship between narrative and gameplay and articulates critical facets of game design such as gameplay mechanics, balance, fairness, narrative, pacing, character, and aesthetics. Students will analyze both the narrative and design implementation challenges of game design and propose strategies for meeting those challenges, particularly in the case of social, medical, environmental, and educational problems (serious games).

**School of Computing and Information courses; choose two courses**
- CS 1566 Intro to Computer Graphics
- CS 1666 Principles of Game Design and Implementation
- CS 1674 Intro to Computer Vision
- INFSCI 1014 Graphics
- INFSCI 1044 Human Factors in System Design
- INFSCI 1060 Game Design
- INFSCI 1061 Game Implementation

**Dietrich School of Arts and Sciences courses; choose two courses**
- ENGCMP 1130 Projects in Digital Composition
- ENGFILM 0570 or FMST 0505 Introduction to New Media
- ENGFILM 0585 or FMST 0790 Technologies of the Body
- ENGFILM 0812 or ENGLIT 0812 or FMST 0762 Media/Ecology
- ENGFILM 1760 or FMST 1412 Cinema and Video Games
- ENGLIT 0702 Introduction to Game Studies
- ENGLIT 1010 Interactive Literature
- ENGLIT 1002 Game, Story, Play
- ENGLIT 1355 Virtual Reality
- ENGWRT 0520 Introduction to Fiction Writing

**Critical Making track**
The Critical Making track focuses on understanding code as creative and expressive of social relationships. The coursework addresses human interfaces within cultural and social contexts, particularly the historical and contemporary relationship between social interaction and platform design. Students will innovate new forms of human-machine interaction, apply or develop new tools to analyze cultural works (texts, images, moving images, etc.), express code in the creation and functioning of material objects or assemblages (haptic feedback systems, robotics, etc.), and analyze ways that gender, race, and other social categories and assumptions are "hard-coded" into both hardware and software.

**School of Computing and Information courses; choose two courses**
- CS 1520 Programming Languages for Web Applications
- CS 1567 Programming/Systems Design - Mobile Robot Platform
- CS 1571 Intro to AI
- INFSCI 1044 Human Factors in System Design
- INFSCI 1059 Web Programming

**Dietrich School of Arts and Sciences courses; choose two courses**
- ENGCMP 0520 Integrating Writing and Design
- ENGCMP 1200 Advanced Composing Digital Media
- ENGCMP or ENGFILM or ENGLIT 0712 or FMST 0760 Critical Making
- ENGFILM 0585 or FMST 0790 Technologies of the Body
- ENGFILM 0590 or FMST 0710 Filmmaking: Production and Criticism
- ENGFILM 0812 or ENGLIT 0812 or FMST 0762 Media/Ecology
- ENGLIT 0521 Scan Culture
- ENGLIT 1355 Virtual Reality
- ENGWRT 1501 Topics in Creative Writing - Audio Storytelling

**Capstone sequence**
The Capstone sequence allows students to design and implement a signature project to complete the major. Students start with the design project (Project 1) and complete the sequence with the implementation project (Project 2) in consultation with their advisors. Students seeking Independent Study or Directed Study options for the capstone sequence should work with their advisors to ensure that the work done in these courses will complete the sequence.

**Project 1; choose one of the following courses**
- ENGCMP 1910 Bridge Seminar
- ENGLIT 1900 Project Seminar
- ENGLIT 1901 Independent Study (by special arrangement only)

**Project 2; choose one of the following courses**
- CMPINF 1981 Project Studio (course in development)
- CS 1902 Directed Study (by special arrangement only)

**Writing (W) requirement**
Students must complete at least one W-course in the major.

**Grade requirements**
Students must maintain at least a 2.0 GPA in all courses that apply toward the major.

**Satisfactory/No Credit option**
There is no limit to the number of courses that can be taken on the S/NC basis for this major.

**Advising**
Digital Narrative and Interactive Design is a joint undergraduate degree between the Department of English in the Dietrich School of Arts and Sciences and the School of Computing and Information. Students enrolled in each school are advised by faculty advisors within that school.

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