

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Learning Technologies

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The Department of Learning Technologies offers course work in applied technology, training and development; and computer education, instructional technology and cognitive systems.

Certification and degree programs in the department focus on such areas as technological solutions in education, non-traditional education and applied technology.

Financial support may be available on a limited basis for research, teaching and internships. Funds vary depending on grants and other activities of the faculty in the department.

Research

Faculty in the department have extensive research interests that include the examination of the development, delivery and evaluation of instruction in education and corporate training environments, and issues related to providing appropriate services to persons with disabilities.

Faculty interests include but are not limited to academic, social and behavioral assessment, designing effective instructional environments for exceptional learners, behavioral management systems for special populations, establishment of partnerships to facilitate services for exceptional individuals, programs and procedures for gifted learners, identification of gifted and talented learners, academic acceleration, early entrance to school for college, social and emotional aspects of giftedness, microcomputer applications, networks, telecommunications, artificial intelligence, multimedia, computer-assisted and managed instructional environments, human-computer interfaces,

cognitive development and information processing of traditional and special populations, utilization of technology in assessment, ethical considerations of the application of technology, statistical modeling, program evaluation, and strategies for working with adult populations.

Grants

Grants from the U.S. Department of Education, Texas Education Agency, Job Training Partnership Program and other sources provide financial support to graduate students, depending on program needs. Tuition and stipend support is available for both full- and part-time students in the areas of emotional and behavior disorders, autism and autism intervention, and transition and correctional special education.

Institute for the Integration of Technology into Teaching and Learning

The Institute for the Integration of Technology into Teaching and Learning (IITTL) promotes the infusion of information technologies into daily teaching/learning practices. IITTL conducts research in the field of teaching and learning at the local, national and international levels.

Texas Center for Educational Technology

The Texas Center for Educational Technology (TCET) is designed to promote research and development collaboration among universities, school districts, the Educational Service Centers and the technology industry for the purpose of integrating the use of technology into Texas schools. Educational technology information and products are disseminated statewide via monthly publications transmitted in print and electronically. Research projects focusing on technology development, use and quality are supported.

Degree Programs

The department offers the following degrees at the master's and doctoral level:

- Master of Education, and
- Master of Science, both with a major in applied technology and performance improvement.
- Doctor of Education, and
- Doctor of Philosophy, both with a major in applied technology and performance improvement.
- Master of Science with a major in computer education and cognitive systems.
- Doctor of Philosophy with a major in educational computing.

Further specialization at the master's level is offered in applied technology and performance improvement for cognitive systems, educational media, health science, marketing education, trade and industrial education, training and development.

The department also supports an interdisciplinary master's degree and an interdisciplinary doctorate with a major in information science. Additional information on these programs is available from the Toulouse School of Graduate Studies and from the Department of Library and Information Sciences respectively.

Depending on the degree attained, graduates of these programs normally seek employment in business, education, industry, military, as teachers, trainers, program administrators, supervisory personnel, guidance counselors, training technologists, curriculum development specialists, research and evaluation specialists, and community college and university faculty members.

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies and meet all requirements of the Department of Learning Technologies. For admission to any program in this department, the applicant should file an application portfolio with the program area of interest and schedule an interview with a program representative.

Applied Technology and Performance Improvement Degree Programs

Master of Education

The Master of Education with a major in applied technology and performance improvement is a 36-hour program. Admission to candidacy is contingent upon submission of program specific admission materials. Contact the ATPI program for information or visit the web site: www.lt.unt.edu.

Required for major: ATTD 5110, 5120, 5130, 5140, 5160, 5440, 5480, 5530 and 5720; EPSY 5210.

Required for minor: 6 hours of courses outside the department. This is the recommended degree for those seeking certification in trade and industrial education, marketing education and health science education.

Master of Science

The Master of Science with a major in applied technology and performance improvement is a 36-semester-hour program that includes 6 hours credit for thesis or problems in lieu of thesis. Admission to candidacy is contingent upon submission of program specific admission materials. Contact the ATPI program for information or visit the web site at www.lt.unt.edu.

Required courses for the major are: ATTD 5010, 5100, 5160, 5440, 5480, 5490, 5500, 5530, 5720 and 6470; EPSY 5210; and 3 semester hours of applied technology, training and development courses determined in consultation with the advisor. A comprehensive research project covering the student's field of specialization is required. This is the recommended degree for those seeking careers in the field of training and development.

Doctor of Education

The purpose of this program is to prepare administrative and supervisory personnel, community college faculty and curriculum development specialists. Admission to the program is contingent upon submission of program specific admission materials and passing a written admission exam. Contact the ATPI program for information or visit their web site at www.lt.unt.edu. Required for the major: ATTD 5430, 6030, 6100, 6200, 6210, 6450, 6460 and 6470; and 9 hours of ATTD courses. The 12 hours of research, statistics and computer requirements include ATTD 6480, EPSY 6010 and 6020; and 3 hours from EPSY 6230 or 6240. Dissertation credit is earned through ATTD 6950.

Required for minor: 12 hours in a field outside the major.

Doctor of Philosophy

The purpose of this program is to prepare potential university faculty and researchers and corporate training specialists. Admission to the program is contingent upon submission of program specific admission materials, passing a written admission exam and a personal interview with the faculty. Contact the ATPI program for information or visit the web site at www.lt.unt.edu. Required for major: ATTD 5100, 6100, 6200, 6210, 6450, 6460 and 6470; and 3 hours of ATTD courses and 6 hours of support courses outside the College of Information. The 18 hours of research and statistics requirements include ATTD 6480, EPSY 6010, 6020, 6230 and 6240; and 3 hours from EPSY 6210 or EPSY 5350. Dissertation credit is earned through ATTD 6950.

Required for minor: 12 hours of course work outside the College of Education.

Further Information

Additional information is available on the program web site (www.lt.unt.edu).

Computer Education and Cognitive Systems Degree Program

Master of Science

This degree is a comprehensive program with options to prepare individuals for positions in both education and industry related to teaching with technology. Options include design and production of technology-based instructional systems, coordination of technology programs, and development and management of instructional systems. Theoretical foundations in cognition and systems processes are expanded through applications in computer-based training, web-based training, distance education and multimedia development.

This degree is a 36-hour program. Requirements include a core of 12 hours: CECS 5210, 5310, 5610 and 5580 (which is to be taken during the last 6 hours of course work). Also required is completion of one of the program tracks and approved electives to reach a total of 36 credit hours.

Computer Education and Cognitive Systems: Instructional Systems Technology. This program track requires the completion of CECS 5200, 5260 5300 and 5420.

Computer Education and Cognitive Systems: Teaching and Learning with Technology. This program track offers preparatory courses for the following State Board of Educator Certification (SBEC) technology certification exams. To receive a barcode for these exams through the University of North Texas, students must successfully complete the courses listed for each test:

- Texas Examination of Educator Standards (TExES): Technology Applications Certification 8–12 (CECS 5020, 5030, 5110, 5111)
- TExES: Technology Applications Certification EC–12 (CECS 5020, 5030, 5110, 5111, 5500)
- Texas Examinations for Master Teachers (TexMat): Master Technology Teacher Certification EC–12 (CECS 5020, 5030, 5110, 5111, 5500)

Only teachers who already have initial teacher certification are eligible for the above technology certifications.

Admission Requirements

1. Bachelor's degree from an accredited college or university.

2. Bachelor's grade point average (GPA) of 2.8 or higher overall, or bachelor's GPA of 3.0 or higher on the last 60 hours, or completed master's degree GPA of 3.4 or higher.
3. Submission of GRE scores is required: verbal, quantitative and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. At least two letters of recommendation from individuals who can give evidence of the candidate's critical thinking ability to engage in graduate studies. The recommendations should also address the candidate's ability to work independently and in groups.
5. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
6. A personal statement from the candidate stating his or her goals and rationale for applying to the computer education program and a brief description of his or her career and research expectations with regard to work and further education.
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6. One of the following: (a) an acceptable score on the verbal section of the GRE or (b) first or second author on an article in a respected, peer-reviewed professional journal or on a book published by a major publisher.
7. One of the following: (a) an acceptable score on the quantitative section of the GRE or (b) completion of 9 hours of graduate course work in mathematics or statistics with a GPA of 3.0 or higher (on a 4.0 grading system).
8. One of the following: (a) an acceptable score on the analytical writing section of the GRE or (b) written response to a problem provided by the educational computing program admissions committee.
9. Three letters of recommendation, one of which must be from a faculty member at an academic institution directed toward the applicant's potential to successfully complete a doctoral program.

Educational Computing Degree Program

Doctor of Philosophy

Admission Requirements

Admission to doctoral study in educational computing is competitive within the capacity of the program faculty to mentor doctoral students. Each prospective student will be subjected to evaluation conducted by the computer education and cognitive systems (CECS) graduate faculty each term/semester for a limited number of openings. The minimum requirements for admission include the following:

1. Master's degree from an accredited college or university. If a candidate already holds a doctorate, the applicant should contact the program advisor. Under unusual circumstances a student may be admitted without a master's degree.
2. Master's degree GPA of at least a 3.4 on a 4.0 grading system.
3. Submission of GRE scores is required: verbal, quantitative and analytical writing. The program views high GRE scores as indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. Personal resume or curriculum vitae that includes a summary of the candidate's previous work or educational experiences and/or training in teaching and administrating.

Degree Requirements

This program includes formal course work, including a qualifying examination, independent study and research (including but not limited to a dissertation). The student will spend a substantial portion of time in independent research and collaborative efforts with the faculty related to the dissertation and other projects. The doctoral degree will require a total of at least 60 semester credit hours past the master's degree.

Course Requirements

1. **Core**, 15 hours from the following: CECS 6000, Philosophy of Computing in Education; CECS 6010, Theories of Instructional Technology; CECS 6020, Advanced Instructional Design: Models and Strategies; CECS 6030, Emerging Technologies in Education; CECS 6100, Theory and Practice of Distributed Learning.
2. **Electives**, 21–27 hours from the following: CECS 6200, Message Design in Education; CECS 6210, Interactive Video; CECS 6220, Theory of Educational Technology Implementation; CECS 6230, Advanced Educational Production Design; CECS 6320, Creating Technology-Based Learning Environments; CECS 6400, Educational Technology Systems Design and Management; CECS 6600, Developing Educational Funding Opportunities; CECS 6510, Analysis of Research in Educational Computing; ATTD 5010, Performance Assessment; CECS 6050, Practicum/Internship; CECS 6900, Special Problems.

3. **Research**, 12 hours: EPSY 6010, Statistics for Educational Research; EPSY 6020, Research Methods in Education; and 6 hours from: EPSY 6210, Multiple Regression Analysis and Related Methods; EPSY 6220, Classical and Modern Educational Measurement Theory; EPSY 6230, Advanced Research Design; EPSY 6240, Technology in Research; EPSY 6250, Advanced Educational Measurement Applications; or EPSY 6280, Qualitative Research in Education.

4. **Minor**: May be included on the degree plan with 6 hours taken as electives and an additional 6 hours from outside the program. This will increase the total number of hours for the degree to 66 semester hours.

5. **Dissertation**, 12 hours: CECS 6950, Doctoral Dissertation.

Candidates for the PhD in educational computing must additionally complete a tool subject consisting of 9 hours of graduate computer education or 9 hours of educational research.

CECS 5020 and CECS 5030 or the equivalent skills are minimally required for leveling. Additional classes or experiences may be required depending on applicant ability.

CECS 5210, 5310, 5570 or the equivalent skills are considered prerequisite to this degree. These courses may be counted as electives.

No student will count more than 9 hours for this degree from independent studies, practicum or internship.

Doctoral Committee

The doctoral committee is composed of a major professor or co-major professor, a minor professor (where the 12-hour minor option is selected) and an additional committee member. The minor professor must come from the academic unit of the minor. At least two members of the committee must be computer education and cognitive systems (CECS) faculty members.

The selection of the doctoral committee is a collaborative process between the doctoral student and the graduate faculty who will serve on the committee. Generally, the process begins with the identification of a major professor who will chair the committee. In establishing the committee, it is important to bring together a diverse group of faculty who have expertise in the various facets of the student's research agenda.

Routes to Certification for Graduate Students

Initial Certification Without an Advanced Degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse School of Graduate Studies as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Scores on the Texas Higher Education Assessment (THEA) test that are acceptable to the individual certification program.
4. Admission to a teacher education certification program is generally required by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application and paying fees to SBEC for teacher certification.

Program-Specific Requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

Trade and Industrial**Option I**

1. A bachelor's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered. Up to 18 months of the wage-earning experience can be through a formal documented internship.

Option II

1. An associate's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

Option III

1. A high school diploma or the equivalent.
2. Five years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

All options require: ATTD 5110, 5120, 5130, 5140, 6030 (Instructional Internship) or undergraduate equivalent.

If a student is not certified in the trade area, the student must pass the appropriate National Occupational Competency Testing Institute (NOCTI) exam.

Advanced or Supplemental Certification Without an Advanced Degree

These certificates are available as additional content areas for those who hold a valid Teacher Certificate. Candidates must meet the following requirements prior to being recommended for the certificate.

1. Completion of all courses including field experience if required. See individual plans for details.
2. Passing scores on the appropriate TExES examination.
3. Making application and paying fees to SBEC for the advanced or supplemental certification.

Program Specific Requirements

Candidates must meet the program requirements for the specific advanced or supplemental certification option selected. Students may later use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward a graduate degree. Acceptance of the hours requires program approval. Students must consult with a faculty program coordinator prior to enrolling in classes.

Technology Applications (All-Level)

1. Bachelor's degree.
2. Current Texas teaching certificate.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111, 5800.

Technology Applications (8–12)

1. Bachelor's degree.
2. Current Texas teaching certificate.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111.

Master Technology Teacher

1. Bachelor's degree.
2. Current Texas teaching certificate with three years of experience.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111, 5500.

Probationary Certificates

Each probationary certificate is for one year and may be renewed three times. Candidates must pass a required criminal background check.

Certification with an Advanced Degree

Students can obtain certain initial, advanced, and supplemental educator certificates while earning an advanced degree. The department, program and certification available are listed below. The specific requirements for each degree and certification are found in their individual program sections.

Initial Certification**Learning Technologies**

- ATTD – Health Science Education
- ATTD – Marketing Education
- ATTD – Trade and Industrial

Advanced or Supplemental Certification**Learning Technologies**

- Computer Education and Cognitive Systems – Master Teacher of Reading, Technology Applications 8–12, Technology Applications EC–12, Master Technology Teacher

Further Information

Additional information is available on the program web site (www.lt.unt.edu).

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Department of Library and Information Sciences

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Fax: 940-565-3101
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E-mail: slis@unt.edu
Web site: www.unt.edu/slis

Maurice Wheeler, Interim Chair

Graduate Faculty: Chandler, Chen, Cleveland, Du, Figa, Miksa, Moen, O'Connor, Oyarce, Ruíz, Schamber, Schultz-Jones, Stein Martin, Thompson, Totten, Turner, Wheeler.

The Department of Library and Information Sciences prepares graduates for dynamic roles in the knowledge age. The department's mission is to provide resources, research and service for education; provide leadership to the library and information community; and prepare information professionals of the highest quality to serve the state, the region and the global community.

The goals of the department are to:

- prepare information professionals who demonstrate excellence in leadership, service, research and education in a technology-driven environment;
- advance and contribute to leading-edge research and scholarship;
- contribute to professional, academic, and public interests through consulting, continuing education and leadership; and
- provide high quality distributed learning opportunities while maintaining a high-quality residential experience.

The department offers a graduate program leading to the following degree:

- Master of Science with majors in information science and library science.