

UNIVERSITY OF NEW ORLEANS

**Computer Science, Electrical Engineering, & Physics
Distance Education Graduate Courses
Spring 2024**

CSCI 5125	Data Models and DBS Syst	Tues / Thurs	2:00pm – 3:15pm
CSCI 5311	Computer Networks & Telecomm	Tues / Thurs	2:00pm – 3:15pm
CSCI 5401	Principles Operating Systems I	Tues / Thurs	3:30pm – 4:45pm
CSCI 5460	Network Op & Defense	Tues / Thurs	5:00pm – 6:15pm
CSCI 5501	Programming Language Structure	Mon / Wed	2:00pm – 3:15pm
CSCI 5525	Intro to Artificial Intelligence	Mon / Wed	11:00am – 12:15pm
CSCI 5535	Natural Language Processing	Tues / Thurs	11:00am – 12:15pm
CSCI 5588	Machine Learning II	Tues / Thurs	2:00pm – 3:15pm
CSCI 5621	Intro Cyber Security	Tues / Thurs	2:00pm – 3:15pm
CSCI 5631	Principles Computer Graphics	Mon / Wed	5:00pm – 6:15pm
CSCI 6521	Advanced Machine Learning I	Tues / Thurs	5:00pm – 6:15pm
CSCI 6650	Intelligent Agents	Tues / Thurs	3:30pm – 4:45pm
ENEE 5097	Special Topics in Electrical Engineering	Mon / Wed	5:00pm – 6:15pm
ENEE 5131	Reliability, Availability, and Maintenance of Engineering Systems	Tues / Thurs	3:30pm – 4:45pm
ENEE 5526	Protective Relaying of Power Systems	Tues / Thurs	6:15pm – 7:30pm
ENEE 5566	Introduction to Optical Networks	TBD	TBD
ENEE 6570	Optimization Techniques in Engineering	Tues / Thurs	11:00am – 12:15pm
ENEE 6583	Neural Networks	Mon / Wed	9:30am – 10:45am
PHYS 5195	Special Topics in Physics - Classical Physics	Mon / Wed / Fri	1:00pm – 1:50pm
PHYS 5205	Physical Applications of the Fourier Transform	Mon / Wed / Fri	12:00pm – 12:50pm
PHYS 5503	Electricity & Magnetism	Tues / Thurs	9:30am – 10:45am
PHYS 5902	Materials Science Laboratory	Fridays	2:00pm – 4:45pm
PHYS 6208	Digital Filtering and Spectral Analysis II	Tues / Thurs	11:30am – 12:15pm
PHYS 6401	Quantum Mechanics I	Tues / Thurs	9:30am – 10:45am

Course Descriptions

CSCI 5125	Data Models and DBS Syst	Tues / Thurs	2:00pm – 3:15pm
	Instructor: Wagner, James		
	(Section W001) Prerequisite: CSCI 2125. Methods, structures, and algorithms used for the organization, representation, and manipulation of large data bases; design and implementation of data base management systems. Students will be required to develop a large project in a team setting.		

CSCI 5311	Computer Networks & Telecomm	Tues / Thurs	2:00pm – 3:15pm
	Instructor: Nur, Abdullah Yasin		
	(Section W001) Prerequisites: CSCI 2125 and CSCI 2450. Overview of modern computer communication networks covering the theoretic multi-layered model from the top down with an emphasis on working protocols and algorithms. Topics include client-server model, common application protocols, connectionless and reliable transport, flow and congestion control, routing, switching, shared medium protocols, transmission media and network hardware.		
CSCI 5401	Principles Operating Systems I	Tues / Thurs	3:30pm – 4:45pm
	Instructor: Wagner, James		
	(Section W001) Prerequisites: CSCI 2125 and CSCI 2467. An introduction to the organization of various types of operating systems; machine structure and the functions of an operating system; multiprogramming and time-sharing environments; memory management and resource allocation; virtual memory concepts; the file system and IO device handling; protection and error recovery.		
CSCI 5460	Network Op & Defense	Tues / Thurs	5:00pm – 6:15pm
	Instructor: Nur, Abdullah Yasin		
	(Section W001) Prerequisite: CSCI 2467. An introduction to network and system administration. Topics include processes and files; scripting; system installation; boot and shutdown; process management; daemons and services; devices and drivers; network fundamentals; network file systems; network services. Topics may also include kernel configuration; performance analysis; accounting and system logging; security. The course requires lab projects on dedicated departmental equipment.		
CSCI 5501	Programming Language Structure	Mon / Wed	2:00pm – 3:15pm
	Instructor: Depano, N Adlai A		
	(Section W001) Prerequisite: CSCI 2125. A study of the concepts of programming languages as realized in a variety of commonly used languages, with emphasis on language definition and structure.		
CSCI 5525	Intro to Artificial Intelligence	Mon / Wed	11:00am – 12:15pm
	Instructor: Samuel, Benjamin Michael		
	(Section W001) Prerequisite: CSCI 2125. Introduction to the problem domain of artificial intelligence and the methods used to solve those problems. Topics include knowledge representation, search strategies, and surveys of principal subareas of artificial intelligence such as expert systems, natural language processing, reasoning systems, games, learning, and vision. Programming assignments in a current artificial intelligence language will be required.		
CSCI 5535	Natural Language Processing	Tues / Thurs	11:00am – 12:15pm
	Instructor: Banerjee, Shreya		
	(Section W001) Prerequisite: CSCI 5525 or consent of department. An introduction to algorithms and techniques used in the generation and processing of natural language. Topics include language models, N-Grams, bag of words, part of speech tagging, and transformer models. Additionally, students can expect to supplement their knowledge of statistical approaches to artificial intelligence first introduced in CSCI 5525, which can be leveraged towards myriad application areas. Application of natural language generation and natural language understanding in the service of tackling real-world problems such as those faced by industry, as well as a mechanism for creative self-expression.		

CSCI 5588	Machine Learning II	Tues / Thurs	2:00pm – 3:15pm
	Instructor: Sen, Atriya		
	(Section W001) Prerequisite: CSCI 2125 or consent. Topics include Machine Learning Models: Neural Networks, Support Vector Machines, Boosting, Genetic Algorithms, Decision Trees, Random Forests, and Deep Belief Nets. The focus of the class will be on the programming aspects of the statistical topics listed here. The in-depth mathematical instruction of the statistical concepts and the related statistical analyses are covered in Math 4371/5371 and Math 4385/5385.		
CSCI 5621	Intro Cyber Security	Tues / Thurs	2:00pm – 3:15pm
	Instructor: Nur, Abdullah Yasin		
	(Section W001) Prerequisites: CSCI 2467. Overview of cyber security; physical security models; authentication and access control mechanisms; application and operating system level security; malicious software; overview of digital forensics; encryption, including private- and public-key encryption methods. A balance between theory and historical/current practice. Students will be required to develop a large project in a team setting.		
CSCI 5631	Principles Computer Graphics	Mon / Wed	5:00pm – 6:15pm
	Instructor: Summa, Christopher		
	(Section W001) Prerequisite: CSCI 2125. Types of graphics hardware point plotting vector and raster technologies; techniques for defining images point vector and raster-based approaches; graphical data and program structures; image manipulation two- and three-dimensional transformations; techniques for producing perspective; hidden line removal; shading; clipping; and windowing. Applications in several fields.		
CSCI 6521	Advanced Machine Learning I	Tues / Thurs	5:00pm – 6:15pm
	Instructor: Hoque, Tamjidul		
	(Section W001) Prerequisites: Credit for Math 5587, CSCI 4587/5587, and MATH 3511 or consent of the department. A probabilistic perspective of machine learning - Regression, Probability, Bayesian Statistics, Kernels, Deep Learning and models such as Gaussian, Mixture, and Markov. Students will have opportunities to learn state-of-the-art machine learning algorithms, implementations, and their application to solving real-world problems. The focus on the class would be on the programming aspects of the statistical topics listed here. The in-depth mathematical instruction of the statistical concepts and the related statistical analyses are covered in MATH 6371 and MATH 6375.		
CSCI 6650	Intelligent Agents	Tues / Thurs	3:30pm – 4:45pm
	Instructor: Redwan Newaz, Abdullah		
	(Section W001) Prerequisite: CSCI 4525. An investigation of computational systems in which several intelligent agents or agents and humans, interact. Includes architectures for building intelligent agents, design and implementation of multi-agent systems, inter-agent communication languages and protocols, problem-solving, planning, learning and adaptation techniques in multi-agent systems.		
ENEE 5097	Special Topics in Electrical Engineering	Mon / Wed	5:00pm – 6:15pm
	Instructor: Michael, Christopher		
	(Section H001) Prerequisite: Consent of department. Special lectures on subjects of current interest in the various fields of electrical engineering. Courses may be taken for credit three times. No student may earn more than nine hours degree credit in courses ENEE-5097, ENEE 6096, ENEE 6097, and ENEE 6098.		

ENEE 5131	Reliability, Availability, and Maintenance of Engineering Systems Instructor: Xiros, Nikolaos	Tues / Thurs	3:30pm – 4:45pm
	<p>(Section W001) (NAME 4131, ENME 4734, and ENEE 4131 are cross-listed) Prerequisite for ENME 4734 and ENEE 4131: MATH 2115 or MATH 2134. Prerequisite for NAME 4131: MATH 2134 (or MATH 2115) with a grade of C or better. Review of probability and statistics; analytical stochastic models for component and system failures; strategies for inspection, maintenance, repair and replacement. Introduction to fault-tree and event-tree analysis; frequency and duration techniques; Markov models; and case studies.</p>		
ENEE 5526	Protective Relaying of Power Systems Instructor: TBD	Tues / Thurs	6:15pm – 7:30pm
	<p>(Section P601) Prerequisite for ENEE 4526: ENEE 3522. Protection of power system components like transmission lines, transformers, radial feeders, generators, and motors from faults and lightning. Differential protection of transformers, generator windings, and transmission lines. Distance protection of transmission lines. Relay coordination for radial feeders. Carrier protection. Use of current and voltage transformers.</p>		
ENEE 5566	Introduction to Optical Networks Instructor: Jovanovich, Kim D	TBD	TBD
	<p>(Section 001) Prerequisites for ENEE 4566: ENEE 3530 with C or better. To introduce the basics of optical communications networks, including the enabling technology, as well as network architectures and protocols. Optical components and interfaces, optical transmission and reception techniques will be studied. Network architectures of past and future generation optical networks will also be studied.</p>		
ENEE 6570	Optimization Techniques in Engineering Instructor: Chen, Huimin	Tues / Thurs	11:00am – 12:15pm
	<p>(Section P001) Prerequisite: A B.S. degree in engineering mathematics or physics or consent of department. Introduction to the formulation of engineering optimization problems. The use of nonlinear optimization techniques such as Steepest Descent, Newton-Raphson, and Conjugate Gradients and Constrained Nonlinear Optimization Techniques in engineering problems. Geometric programming in engineering problems.</p>		
ENEE 6583	Neural Networks Instructor: Alsamman, Abdul Rahman	Mon / Wed	9:30am – 10:45am
	<p>(Section H001) Prerequisite: B.S. in Engineering, Math, or Physics, or consent of the department. Introduction to the ideas and techniques used in artificial neural network models.</p>		
PHYS 5195	Special Topics in Physics - Classical Physics Instructor: Seab, Charles	Mon / Wed / Fri	1:00pm – 1:50pm
	<p>(Section P001) Prerequisite: consent of department. The content of this course will be varied from semester to semester. May be taken multiple times for credit. A maximum of six semester hours credit in PHYS 4195, PHYS 4196, PHYS 4197 and PHYS 4198 will be allowed toward a B.S. degree.</p>		

PHYS 5205	Physical Applications of the Fourier Transform Instructor: Leftwich, Kendal	Mon / Wed / Fri	12:00pm – 12:50pm
	(Section P001) Prerequisites: PHYS 1062 and either MATH 2115 or MATH 2134. Physical applications of the Fourier transform and series, convolution, and basic theorems; sampling and data treatment; and introduction to Fourier methods in geophysics and optics.		
PHYS 5503	Electricity & Magnetism Instructor: Malkinski, Leszek	Tues / Thurs	9:30am – 10:45am
	(Section H001) Prerequisite: PHYS 4501. Time-dependent electric and magnetic fields. Solutions of Maxwell's equations and electromagnetic radiation.		
PHYS 5902	Materials Science Laboratory Instructor: Zhou, Weilie	Fridays	2:00pm – 4:45pm
	(Section P001-LL) Prerequisites: PHYS 4901, CHEM 3610, or ENME 2740. This interdisciplinary laboratory course is designed for senior level undergraduates primarily from the Departments of Physics, Chemistry, Mechanical Engineering and Electrical Engineering. Students will carry out advanced experiments in condensed physics/materials science, focused on mechanical, magnetic, electronic, elastic, and photonic properties of solids. Lectures will introduce students to the science of the materials necessary to understand and do the experiments.		
PHYS 6208	Digital Filtering and Spectral Analysis II Instructor: Ioup, Juliette	Tues / Thurs	11:30am – 12:15pm
	(Section H001) Prerequisites: PHYS 6207. Brief review of transform and random process theory, review of matrix algebra, classical spectral estimation, parametric models for random processes, autoregressive spectrum properties and estimation, ARMA spectral estimation, Prony method, minimum variance spectral estimation, eigenvector approaches, multichannel and two-dimensional spectral estimation.		
PHYS 6401	Quantum Mechanics I Instructor: Ioup, Juliette	Tues / Thurs	9:30am – 10:45am
	(Section H001) Prerequisites: PHYS 4402 and PHYS 4201 or MATH 2221. The conceptual basis of quantum mechanics and its relation to classical mechanics. Quantum states and energies are determined for simple systems with emphasis on the use of symmetries and other general features of the systems.		

UNIVERSITY OF NEW ORLEANS

Registration Information

Admissions

Applicants for non-probational admission to a graduate program should have at least a 2.5 GPA on a 4-point scale for all undergraduate coursework (2.75 for MBA), a 3.0 GPA on a 4-point scale for all graduate coursework, and satisfactory test scores. Individual programs may have additional requirements.

Students that do not wish to pursue an advanced degree may apply as a non-degree graduate student. Applicants seeking non-degree status are required to submit an official transcript from the institution that awarded their bachelor's degree. No more than 12 graduate credit hours earned while non-degree can be applied towards a degree program.

For more information and to get started on your application, please see <https://www.uno.edu/academics/grad>.

Registration

Registration for Spring 2024 is ongoing through January 7th, 2024 without a late fee. Classes begin on January 8th, 2024. All students must satisfy prerequisite requirements for UNO courses or receive consent of the department offering the course. Students should register for classes online.

Please contact Keith Long at Keith.Long@usm.edu / 228-688-7662 to let him know if you have enrolled in a course so that he can track your paperwork and avoid problems.

Log on to the University of New Orleans homepage located at www.uno.edu for more information on programs and classes. Classes, days, and times listed are subject to change.

Hybrid Delivery Options for In-Person Courses

In-person courses may be offered in a hybrid form (with content broadcast, recorded, and uploaded) upon permission from the instructor. Please contact Keith Long at Keith.Long@usm.edu / 228-688-7662 to request a hybrid option for any in-person courses.

Tuition

A full listing of graduate tuition costs based on credit hours and residency status is available on the UNO website at <https://www.uno.edu/bursar/grad-fees>.

Important Dates

January 7 th	Last date of schedule adjustment period (w/o fee penalty) & last day to drop classes for 100% refund
January 8 th	Classes begin
April 30 th	Last day of classes
May 1 st	Final exams begin

Student Advisement

Students seeking advice regarding the UNO Ph.D. program in Engineering and Applied Science, the master's program in Applied Physics, or any other UNO degree program should contact Keith Long from the Center of Higher Learning at Keith.Long@usm.edu / 228-688-7662.

For more information about the graduate degree programs UNO offers, please see <https://www.uno.edu/academics/grad/programs>.