



NATIONAL
UNIVERSITY

ADDENDUM H

TO THE NATIONAL UNIVERSITY GENERAL CATALOG 82

Effective Date March 2, 2020

National University Academic Headquarters

11255 North Torrey Pines Road

La Jolla, CA 92037-1011

(858) 642-8800

Technology Fees

The following courses utilize a third-party technology. Accessing the third-party technology is a required component of your course. The technology fee will be applied to the student's account at the time tuition is applied.

Bachelor of Science in Cybersecurity

CYB 200 - \$12.00
CYB 211 - \$68.00
CYB 212 - \$76.00
CYB 213 - \$12.00
CYB 214 - \$12.00
CYB 215 - \$12.00
CYB 216 - \$72.00
CYB 320 - \$12.00
CYB 331 - \$12.00
CYB 332 - \$12.00
CYB 333 - \$12.00
CYB 340 - \$12.00
CYB 420 - \$12.00
CYB 450 - \$12.00
CYB 451 - \$12.00
CYB 452 - \$12.00
CYB 453 - \$12.00
CYB 454 - \$12.00
CYB 460 - \$12.00
CYB 461 - \$12.00
CYB 462 - \$12.00
CYB 463 - \$12.00
CYB 470 - \$12.00
CYB 471 - \$80.00
CYB 472 - \$12.00
CYB 473 - \$12.00
CYB 499A - \$12.00
CYB 499B - \$12.00
CYB 499C - \$12.00

Master of Science Cybersecurity

CYB 600 - \$68.00
CYB 601 - \$76.00
CYB 602 - \$12.00
CYB 603 - \$12.00
CYB 604 - \$60.00
CYB 606 - \$12.00
CYB 608 - \$12.00
CYB 612 - \$12.00
CYB 613 - \$12.00
CYB 616 - \$12.00
CYB 632 - \$12.00
CYB 633 - \$68.00
CYB 634 - \$12.00
CYB 699A - \$12.00
CYB 699B - \$12.00
CYB 699C - 12.00

Bachelor of Science Information Technology Management

ITM 200 \$12.00

ITM 205 \$12.00
ITM 230 \$12.00
ITM 320 \$12.00
ITM 325 \$12.00
ITM 340 \$12.00
ITM 345 \$12.00
ITM 420 \$12.00
ITM 430 \$12.00
ITM 434 \$55.00
ITM 435 \$55.00
ITM 438 \$12.00
IYM 440 \$12.00
ITM 450 \$12.00
ITM 470 \$12.00
ITM 475 \$12.00
ITM 490A \$12.00
ITM 490B \$12.00
ITM 490C \$12.00

Bachelor of Science in Nursing Program(s)

NSG335 \$110.00
NSG442 \$90.00
NSG443 \$90.00
NSG444 \$130.00
NSG460 \$100.00

ACADEMIC PROGRAM UPDATES

COLLEGE OF LETTERS AND SCIENCES

PROGRAM TERMINATIONS

- Associate of Science in Alcohol and Drug Abuse Counseling
- Bachelor of Arts in Film Arts
- Master of Arts in Gerontology

GRADUATE DEGREE INFORMATION

MASTER OF ARTS IN ENGLISH

Academic Program Director: Franz Potter; (714) 429-5410; fpotter@nu.edu

The Master of Arts in English program provides a comprehensive program of graduate study in English, including core courses in literature and a rich array of electives covering the large area of academic study under the umbrella term English. The program is ideal for teachers who desire a content M.A. beyond the credential. It is also excellent preparation for doctoral studies in English, teaching in the two-year college, or other careers requiring a high degree of literacy.

The program's core requirements include five seminars--theory, research, and three core literature courses: a literary period course, a major author course, and a theme course.

Students have the opportunity to select their course content from a variety of available topics. For example, for the major author seminar, we offer courses in Chaucer, Shakespeare, Austen, Dickens, Whitman, T.S. Eliot, Steinbeck, Hemingway, and James Baldwin, among others. Students are allowed four elective courses. Those wanting a deeper study of English or American literature can select additional seminars in literary periods, major authors, or themes as their electives.

Courses in creative writing, rhetoric, and film studies are also offered as electives for students with interests in those areas. In the MA English program, we study film as literature, and we share a rich selection of film studies courses with the MA Film Studies program.

Students wanting one of the optional specializations in either Rhetoric or Gothic Studies should refer to the catalog description of those specializations.

The curriculum covers major approaches to literature, including theoretical, historical, comparative, thematic, multicultural, and genre studies. The program provides students with the critical vocabulary, tools, and research ability to produce literary scholarship of professional quality and to participate in the ongoing scholarly discussions of issues in the field of literary study. In their capstone project, students write a scholarly paper to the standards of a scholarly journal of their choice, and a number of our graduates have succeeded in publishing their capstone projects.

NOTE: The program includes a number of variable-content courses under the same course number. Variable content course topics will be found in SOAR and will also appear on student transcripts. For example, our ENG 620A and ENG 620B offerings include seminars in Medieval English literature, 17th-Century English Poetry, English Romanticism, Victorian Literature, American Romanticism, Literary Realism, Modernism, Harlem Renaissance, Lost Generation, Greatest Generation, Beat Generation, and Postmodernism, among others. Variable content courses can be taken more than once, with different content, to fulfill degree requirements.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Research and apply relevant criticism in sustained analyses and interpretations of specific works of fiction, non-fiction, and poetry.
- Evaluate the relevance and validity of different theoretical approaches (e.g., historicist, biographical, etc.) to the understanding of specific works of literature.
- Engage in informed critical discussion, both oral and written, of theoretical issues pertaining to the study of literature.

- Engage in informed critical discussion, both oral and written, of the works and criticism of a specific literary period or movement.
- Participate in rigorous critiques of the scholarly works of others.
- Revise and expand a scholarly paper to submit for publication in a scholarly or literary journal.

Degree Requirements

To receive the Master of Arts in English, students must complete at least 45 quarter units. A total of 4.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided the units were not used in earning another advanced degree. Students should refer to the General Catalog section on graduate admission requirements for specific information regarding admission and evaluation.

Core Requirements

(6 courses; 27 quarter units)

ENG 599	Intro to Grad English Studies
ENG 600	Seminar in Literary Theory
ENG 620A	Literary Period or Movement I
or	
ENG 620B	Literary Period or Movement II
ENG 680A	Seminar in a Theme I
or	
ENG 680B	Seminar in a Theme II
ENG 690A	Major Author Seminar I
or	
ENG 690B	Major Author Seminar II
ENG 699*	English Capstone Course
or	
ENG 697*	Capstone Project in Rhetoric
	<i>Prerequisite: ENG 655, ENG 656, ENG 657, and ENG 668 or ENG 680A Pictures that Speak</i>

*A total of five core courses and four electives, as described in the Degree Requirements for the Program, must be completed before enrolling in the Capstone course.

Elective Requirements

(4 courses; 18 quarter units)

Select from the following list of courses:

ENG 610	Multicultural Literature
ENG 620A	Literary Period or Movement I
or	
ENG 620B	Literary Period or Movement II
MCW 630	Seminar in Fiction
ENG 640	Seminar in Poetry
MCW 645	Seminar in Poetry
MCW 650	Seminar in Creative Nonfiction
ENG 655	Composition Pedagogy
ENG 656	History of Rhetoric
ENG 657	Modern Rhetoric

ENG 665	Film Theory
ENG 666	Silent Film
ENG 667	American Film History
ENG 668	Film Genre Studies
ENG 669	World Film
ENG 670	Comparative Literary Studies
ENG 690A	Major Author Seminar I
or	
ENG 690B	Major Author Seminar II
ENG 680A	Seminar in a Theme I
ENG 680B	Seminar in a Theme II
ENG 685	American Directors
ENG 686	International Directors

Specialization in Gothic Studies

Academic Program Director: Franz Potter; (714) 429-5410; fpotter@nu.edu

The Master of Arts in English with a Specialization in Gothic Studies provides a balanced and comprehensive program of graduate study in literature as well as a rigorous examination of the historical, theoretical and critical reception of the Gothic, from its origins in the eighteenth century through to a range of contemporary works in both literature and film. The program is appropriate for students seeking preparation for doctoral study or college-level teaching in English and related fields, or general cultural enrichment.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Research relevant criticism in sustained analyses and interpretations of specific works of fiction, non-fiction, and poetry.
- Evaluate the relevance and validity of different theoretical approaches (e.g., historicist, biographical, etc.) to the understanding of specific texts.
- Compare informed critical discussions of theoretical issues pertaining to textual analysis.
- Synthesize current theory and practice in the study of Gothic literature.
- Evaluate the complexities of canon formation.
- Assess informed critical discussions, both oral and written, the works and criticism of the Gothic literary period and movement.

Specialization Requirements

(4 courses; 18 quarter units)

ENG 620A	Literary Period or Movement I: Dark Romanticism
ENG 620B	Literary Period or Movement II: American Gothic
ENG 640	Seminar in Poetry: Graveyard Poetry
ENG 668	Film Genre Studies: Horror Films
ENG 680A	Seminar in a Theme I: Vampires or Gothic Literature

ENG 680B	Seminar in a Theme II: Gothic Prisons or Romantic Spaces or Female Gothic
ENG 690A	Major Author Seminar I: Ann Radcliffe
ENG 690B	Major Author Seminar II: E. A. Poe

Specialization in Rhetoric

Academic Program Director: Christine Photinos; (858) 642-8349; cphotinos@nu.edu

The Master of Arts in English with a Specialization in Rhetoric provides a program of graduate study in literature as well as a wide range of cultural production, from classical oration to contemporary cinema, with particular attention paid to how language and image are used to produce various effects and meanings. Students study literary texts and other cultural artifacts across a variety of media forms, developing readings that are grounded in contextual understanding. They complete course work in literary studies, classical and modern rhetoric, composition pedagogy, media studies, and film studies. The prescribed curriculum contains several variable-topic courses, allowing students to pursue broad program goals in topic areas matched to their individual interests. The program is appropriate for students seeking preparation for doctoral study or college-level teaching in English and related fields, or general cultural enrichment.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Produce sustained textual analyses and interpretations that are informed by relevant published criticism.
- Evaluate the relevance and validity of different theoretical approaches to the understanding of specific texts.
- Produce rigorous critiques of the scholarly works of others.
- Interrogate and synthesize key theories and practices within Composition Studies.
- Analyze how language and image are used to produce various effects and meanings across a variety of media forms.
- Produce a work of rhetorical criticism suitable for publication in a scholarly journal.

Specialization Requirements

(4 courses; 18 quarter units)

Students must select **four (4)** of the **five (5)** courses listed below:

ENG 656	History of Rhetoric
ENG 657	Modern Rhetoric
ENG 655	Composition Pedagogy
ENG 668	Film Genre Studies
ENG 680A	Seminar in a Theme I <i>Topic: Pictures that Speak</i>

MASTER OF ARTS IN FILM STUDIES

Academic Program Director: Ramie Tateishi;
(858) 642-8398; rtateishi@nu.edu

The Master of Arts in Film Studies curriculum covers the central aspects of film studies, including theory, history, film genre, national film histories, and individual directors. The degree coursework provides the student with the critical vocabulary, tools, and research abilities required to produce professional scholarship in the discipline on topics of historical and current academic interest.

By providing students with advanced theoretical, historical, and aesthetic understandings of cinema, the program prepares them for doctoral studies in film, for teaching film or film-related courses at the community college level, and for other careers requiring advanced critical thinking and media literacy skills.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze, synthesize, and evaluate film theory, aesthetics, history, and individual American and international directors.
- Research and write in the areas of film theory, aesthetics, history, and individual American and international directors.
- Critique specific films using technical film vocabulary, critical approaches, and film research tools.
- Evaluate the relevance and validity of different theoretical approaches to film studies.
- Engage in informed critical discussion, both oral and written, of theoretical issues pertaining to the study of film.
- Engage in informed critical discussion, both oral and written, of the works and criticism of a specific film or literary period or movement.
- Revise and expand a paper to submit for publication in a scholarly or film journal.

Degree Requirements

To receive the Master of Arts in Film Studies, students must complete at least 45 quarter units. A total of 4.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided units were not used in earning another advanced degree. Students should refer to the section in the General Catalog on graduate admission requirements for specific information regarding application and evaluation.

Note: The two Program Electives may be selected from the variable-content courses within the program, which are ENG 668, ENG 669, ENG 685 and ENG 686. The topics of these courses can be found in SOAR and will also appear on student transcripts. The Program Electives may consist of any two of these variable-content courses, provided that the topics of these two elective courses are different than the ones used to

satisfy the Core Requirements.

Core Requirements

(8 Courses; 36 quarter units)

ENG 665	Film Theory
ENG 666	Silent Film
ENG 667	American Film History
ENG 668	Film Genre Studies
ENG 669	World Film
ENG 685	American Directors
ENG 686	International Directors
ENG 698	Film Studies Capstone Course

Prerequisite: A total of seven core courses and two elective courses as described in the Degree Requirements for the Program must be completed before enrolling in the Capstone course.

Program Electives

(2 courses; 9 quarter units)

The two program electives may be selected from the following variable-content courses within the program. The topics of these courses can be found in SOAR and will also appear on student transcripts; please contact your academic advisor for review. The program electives may consist of any two of these variable content courses, provided that the topics of the two elective courses are different than the ones used to satisfy the core requirements.

ENG 668	Film Genre Studies
ENG 669	World Film
ENG 685	American Directors
ENG 686	International Directors

MASTER OF FINE ARTS IN CREATIVE WRITING

Academic Program Director: Frank Montesonti;
(858) 215-4579; fmontesonti@nu.edu

The Master of Fine Arts in Creative Writing is a studio degree where students produce creative work and refine it through workshops that focus on developing craft in fiction, creative nonfiction, poetry, or screenwriting. In online workshops, students write constructive critiques of the work of their classmates, read contemporary texts from the writer's perspective, and participate in generative writing activities.

Courses are taught by established writers in the field who share their perspective and expertise in the craft. Participating in seminars and workshops, students build valuable skills in their chosen concentration. The culmination of the program is the thesis project, a publishable quality full-length book or screenplay. During the thesis process, students work one-on-one with a faculty mentor in drafting and revising a publishable quality thesis.

This program is excellent preparation for a professional career in writing, working in the areas of publishing or filmmaking, and is the minimal academic qualification appropriate for those who desire to teach creative writing at the college or university level.

Students are expected to focus in one genre but are required to take seminar workshops in different genres in order to broaden the scope of their reading and writing. Students are encouraged to take graduate courses in English Literature as electives, as the critical study of literature goes hand in hand with its composition. Interested students may submit to, or volunteer to work on, the student literary journal, the GNU.

The Master of Fine Arts in Creative Writing program is entirely online with no on-ground residency requirement.

Application Requirements

To be considered for admission, applicants must meet the University graduate admission requirements listed in the general information. In addition, applicants in creative writing should submit portfolios of their writing directly to: fmontesonti@nu.edu. The portfolio should include one of the following: 20-30 (double spaced) pages of fiction or literary nonfiction (a novel chapter, short stories, or essays), 10-20 pages of poetry, an act of a screenplay, or a 20-30 page sample of work mixing several genres. Based on the portfolio, applicants may be advised to complete one or more undergraduate workshops prior to enrolling in the advanced writing workshops.

BA English to MFA Transition Program

Students who are in the process of completing a BA with a major in English and concentration in creative writing at National University may be eligible for the BA to MFA transition program. Requirements for the transition program are listed under the Bachelor's Degree with a major in English in the catalog.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Evaluate various aesthetic theories of fiction, literary nonfiction, poetry, or screenwriting.
- Formulate practical and theoretical models of teaching and learning the writing of fiction, literary nonfiction, poetry and screenwriting.
- Critique specific works of literature and screenwriting.
- Develop publishable-quality writing in fiction, literary nonfiction, poetry, or screenwriting.
- Evaluate different literary formats.
- Implement craft principles of plot, characterization, style, point of view, narrative technique, and language in the creation of fiction.
- Implement craft principles of plot, characterization, style, point of view, narrative technique, and language in the creation of literary nonfiction.
- Implement craft principles of language, style, themes, technique, rhythm, and form in the creation of poetry.
- Implement craft principles of plot, characterization, style, point of view, narrative technique, language, form, dialogue, and other issues of screenwriting.

Degree Requirements

To receive the MFA in Creative Writing, students must complete at least 58.5 quarter units; a total of 13.5 quarter units may be granted for equivalent work completed at another institution, as it applies to this degree, and provided the units were not used in earning another advanced degree. Students should refer to the General Catalog section on graduate admission requirements for specific information regarding admission and evaluation.

MCW 610 and MCW 659 are four-week courses; all other MCW courses are eight weeks in duration.

Core Requirements

(5 courses; 22.5 quarter units)

Students are required to take MCW 610 and MCW 659, one seminar in their chosen specialty, and two additional courses of their choice in different areas.

Students are encouraged to begin the program with:

MCW 610 Textual Strategies

and

choose **three (3)** of the following courses:

MCW 630 Seminar in Fiction

MCW 645 Seminar in Poetry

MCW 650 Seminar in Creative Nonfiction

MCW 685 Basics of Screenwriting

Students should preferably conclude the core requirements with:

MCW 659 Pedagogy of Creative Writing

Core Specialized Study

(2 courses; 9 quarter units)

Students are expected to take two advanced workshops in their specialty. All advanced creative writing courses are conducted by teachers who are accomplished creative writers sensitive to the efforts of writing. Classes are conducted as workshops, with student work comprising much of the text for the course.

MCW 630A Advanced Workshop in Fiction
Prerequisite: MCW 630

and

MCW 630B Adv Workshop in Fiction
Prerequisite: MCW 630

or

MCW 640A Advanced Workshop in Poetry
Prerequisite: MCW 645

and

MCW 640B Advanced Workshop in Poetry
Prerequisite: MCW 645

or

MCW 650A Adv Workshop in Lit Nonfiction
Prerequisite: MCW 650

and

MCW 650B Adv Workshop in Lit Nonfiction
Prerequisite: MCW 650

or

MCW 680A Adv Workshop in Screenwriting

Prerequisite: MCW 685

and

MCW 680B Adv Workshop in Screenwriting

Prerequisite: MCW 685, and MCW 680A

Elective Requirements

(4 courses; 18 quarter units)

A minimum of **two (2)** electives should be chosen from the list below. All graduate courses with the prefix ENG except the capstone courses are approved electives for the MCW program.

MCW 635 Writing for Young Adults

MCW 636 Genre Fiction Workshop

ENG 600 Seminar in Literary Theory

ENG 610 Multicultural Literature

ENG 620A Literary Period or Movement I

ENG 620B Literary Period or Movement II

ENG 640 Seminar in Poetry

ENG 655 Composition Pedagogy

ENG 656 History of Rhetoric

ENG 657 Modern Rhetoric

ENG 660 Seminar in Literary Hypermedia

ENG 665 Film Theory

ENG 666 Silent Film

ENG 667 American Film History

ENG 668 Film Genre Studies

ENG 669 World Film

ENG 670 Comparative Literary Studies

ENG 680A Seminar in a Theme I

ENG 680B Seminar in a Theme II

ENG 685 American Directors

ENG 686 International Directors

ENG 599 Intro to Grad English Studies

MCW 636 Genre Fiction Workshop

ENG 690A Major Author Seminar I

ENG 690B Major Author Seminar II

The remaining **two (2)** electives may be from the above list or if the student wants to take more workshop courses, additional advanced MCW writing workshops that the student has not already taken as part of her/his specialized study may be taken as electives. These include:

MCW 630A Advanced Workshop in Fiction

Prerequisite: MCW 630

MCW 630B Adv Workshop in Fiction

Prerequisite: MCW 630

MCW 640A Advanced Workshop in Poetry

Prerequisite: MCW 645

MCW 640B Advanced Workshop in Poetry

Prerequisite: MCW 645

MCW 650A Adv Workshop in Lit Nonfiction

Prerequisite: MCW 650

MCW 650B Adv Workshop in Lit Nonfiction

Prerequisite: MCW 650

MCW 680A Adv Workshop in Screenwriting

Prerequisite: MCW 685

MCW 680B Adv Workshop in Screenwriting

Prerequisite: MCW 685, and MCW 680A

Thesis Courses

(2 courses; 9 quarter units)

Thesis: The thesis must be a mature, substantial body of work e.g. a collection of stories, essays, or poems, a novel, or a full-length screenplay. The thesis will include an aesthetic statement (minimum 2000 words) in which the writer discusses her/his evolution as an artist and the evolution of the work. The student will choose a mentor for the thesis and will work with the mentor in an individualized manner, decided upon through conference with the mentor.

MCW 660 Thesis I (Practicum)

Prerequisite: Requires completion of MFA CW portfolio all core, specialized study and elective courses

MCW 670 Thesis II (Revision)

Prerequisite: MCW 660

Language Requirement

There is no language requirement for this program. It is possible, however, to pursue a series of electives in a particular language when such study is demonstrably essential to the student's creative work. The candidate must work out a specific program in conjunction with the lead program faculty.

MASTER OF FORENSIC SCIENCES

Academic Program Director: Ismail Sebetan; (858) 642-8419; isebetan@nu.edu

The Master of Forensic Sciences (MFS) is a specialized professional degree designed for law enforcement, lab personnel, attorneys, investigators, and other professionals seeking to upgrade their existing skills, as well as individuals who are interested in pursuing a career in the forensic sciences, law, law enforcement, private or governmental laboratories, jails and corrections, and the Medical Examiner's Office. The field of forensics focuses on the application of scientific methods to the resolution of legal problems.

The Master of Forensic Sciences degree program offers two areas of specialization. Students are required to take one specialization.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Explain basic human anatomy, component of death investigation and techniques used for analysis of diseases and trauma, identification of unknown dead bodies; and to professionally interact with the forensic pathologist and medico-legal death investigators.
- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.
- Analyze the basic principles and the role of crime scene investigators in forensic and legal procedures.

- Apply the basic principles of forensic photography, and explain the legal issues related to forensic photography and courtroom or trial presentation.
- Evaluate the legal and psychological issues involved in competency to stand trial, diminished capacity, and insanity defenses.
- Understand friction ridge skin differential development and how it applies to the classification of fingerprints and the methodology used in forensic individualization.
- Utilize theories, techniques and practices to all criminal and civil investigation.
- Use investigative techniques in the processing and interpretation of evidence of computer and multimedia forensics.
- Analyze the legal, ethical, and constitutional tensions between the interests of society, and the rights of individuals in connection with various criminal procedures and contexts.
- Integrate scientific research methodology to explore issues in forensic science.

Degree Requirements

To receive an MFS, students must complete at least 54 quarter units of graduate coursework. A total of 13.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided the units were not used in earning another advanced degree. Students should refer to the section on graduate admission requirements for specific information regarding application and evaluation.

Students must have an undergraduate degree in a laboratory science in order to enroll in the MFS with a specialization in criminalistics. The MFS with a specialization in investigation does not have a specific major requirement for the undergraduate degree.

For students in the BS in Criminal Justice Administration/MFS transition program, the University will waive the forensic sciences course(s) taken as part of the bachelor's degree (see BS in Criminal Justice transition program), but these students must still meet the residency requirements for the MFS.

Students should consult the academic director to determine at what point in the sequence they may enter the program.

Core Requirements

(8 courses; 36 quarter units)

FSC 630	Forensic Pathology I
FSC 642	Forensic Pathology II <i>Prerequisite: FSC 630</i>
FSC 635	Forensic Anthropology
FSC 648 **	Forensic Photography
FSC 647	Crime Scene Investigation
FSC 623	Fingerprint Analysis
FSC 621	Digital Evidence

FSC 662 *

Supervised Research Project

Prerequisite: Satisfactory completion of all FSC courses, including area of specialization and/or elective courses or obtain approval of the Academic Program Director.

** Students will be required to obtain their own photographic equipment, which must meet the requirements of the course. All digital cameras to be used must meet the same standards as film based forensic cameras, which includes: interchangeable lenses, manual settings for shutter and aperture, and the ability to use an external, off camera electronic flash attachment.

* This is a two-month, one-meeting-per week course with a significant research component. Grading is by H, S or U. Students who do not complete the Research Project within the two month period are eligible, at the discretion of the instructor, to receive a grade of "IP" with a maximum of a one time six-month extension. Students who do not complete the project at the end of the extension period will need to retake FSC 662. No grade of "I" (Incomplete) can be given for this course.

Program Electives

(2 courses; 9 quarter units)

Students can take courses with the preapproval of the Academic Program Director, who should be consulted prior to scheduling of any elective. The following is recommended:

FSC 651

Topics in Forensic Sciences

Specialization in Criminalistics

This Specialization in Criminalistics requires that students have an undergraduate degree in physical science (chemistry, biology or chemistry/biology, laboratory science) or approval of the Academic Program Director. The program culminates in a supervised master's research project directed by full-time faculty and a committee of associate and core adjunct faculty selected by the students from their program.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.

Specialization Requirements

(4 courses; 18 quarter units)

FSC 632	Trace Evidence
FSC 633	Advanced Forensic Toxicology
FSC 634	Forensic Serology and DNA
FSC 636	Advanced Forensic DNA Analysis <i>Prerequisite: FSC 634</i>

Specialization in Investigation

This Specialization in Investigation is designed to provide graduate education in the most current and advanced forensic investigative techniques available in the field, with a wide understanding of the concepts underlying the forensic sciences. This program is suitable for those students who are interested in pursuing a career in forensic crime and death investigations. The program also allows individuals who are currently working in forensic investigation areas to develop and upgrade their individual educational skills. The program also includes forensic-related writing and research. The program culminates in a supervised master's research project directed by full-time faculty and a committee of associate and core adjunct faculty selected by students from their program.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply the technical procedures and methods of collection, preservation, chain of custody, analysis, comparison and report preparation of the biological, trace and toxicological evidentiary evidence.
- Evaluate the legal and psychological issues involved in competency to stand trial, diminished capacity, and insanity defenses.
- Apply profiling knowledge and crime scene analysis methods to crime scene variables.
- Analyze the legal, ethical, and constitutional tensions between the interests of society, and the rights of individuals in connection with various criminal procedures and contexts.
- Utilize theories, techniques and practices to all criminal and civil investigation.

Specialization Requirements

(4 courses; 18 quarter units)

FSC 620	Advanced Criminalistics
FSC 643	Forensic Psychology
FSC 622	Law and Criminal Procedure
FSC 631	Major Case Investigation

COLLEGE OF PROFESSIONAL STUDIES

PROGRAM TERMINATIONS

- Bachelor Arts in Health Sciences with an Inspired Teaching and Learning Preliminary Single Subject Credential (California)
- Bachelor of Science in Construction Engineering Technology
- Undergraduate Certificate in Cisco Certified Network Associate (CCNA) Exploration
- Master Science in Business Analytics
- Master Science in Health & Life Science Analytics
- Master Science in Juvenile Justice
- Graduate Certificate in Project Management

UNDERGRADUATE PROGRAM INFORMATION

BACHELOR BUSINESS ADMINISTRATION

Academic Program Director: Nelson Altamirano;
(858) 642-8428; naltamirano@nu.edu

The Bachelor of Business Administration (BBA) degree prepares students for career opportunities and advancement in business and industry. Successful completion of lower- and upper-division BBA requirements ensures that graduates comprehend the relationships among marketing, quantitative theory, accountancy, economic principles and financial, human and organizational management. The BBA gives students an opportunity to specialize in designated fields by pursuing concentrations and minors, or to choose an individualized set of general BBA electives.

Bachelor of Business Administration/Master of Business Administration (BBA/MBA) Transition Program

Students in the BBA/MBA transition program must complete graduate-level coursework taken as part of the BBA degree with a grade of B or better. This coursework, which counts as electives, will not transfer as graduate-level credit to National University or any other institution as it is part of an undergraduate degree program. Grades earned in graduate level courses will be calculated as part of the student's undergraduate grade point average. Students must be within completing their last six courses in their undergraduate program and have a cumulative GPA of at least a 3.00 to be eligible. Lastly, students must apply for and begin the MBA program within six months after completing their final BBA course. Students must complete their MBA program within four years with no break exceeding 12 months.

Students in the BBA/MBA transition program may take up to three MBA classes as electives during the BBA. Students may choose from the following courses: MKT 602, IBU 606, MGT 603, MGT 608, and ECO 607. ACC 604 and FIN609A may be approved if met respective pre-requisites.

The number of courses required to earn an MBA degree for transition program students is reduced from 12 to as few as 9 courses, depending on classes selected and grades earned.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply ethical and legal principles to a business environment
- Apply skills and knowledge in the areas of business math, economics, accounting, finance, and operations management needed to make sound business decisions
- Apply knowledge in the fields of management, information systems, and marketing to different business environments

- Apply the knowledge acquired in the program for the analysis of strengths, weaknesses, and potential improvements in a business
- Utilize writing, presentation, research and teamwork skills expected of a business-school graduate at the bachelors-level
- Examine a global business perspective based on the knowledge of foreign business environments and cultures

Degree Requirements

To receive a BBA, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level, and a minimum 70.5 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy total units for the degree. The following courses are specific degree requirements. Refer to the section on undergraduate admission procedures for specific information regarding admission and evaluation. All students receiving an undergraduate degree in Nevada are required by State Law to complete a course in Nevada Constitution.

Preparation for the Major

(6 courses; 27 quarter units)

MNS 205 must be taken if students do not have transfer credits for MNS 205 or the MTH courses.

MNS 205 * Intro to Quantitative Methods

or

MTH 210 * Probability and Statistics

Prerequisite: Accuplacer test placement evaluation, or MTH 12 and MTH 12B

or

MTH 215 * College Algebra & Trigonometry

Prerequisite: Accuplacer test placement evaluation, or MTH 12A and MTH 12B

or

MTH 220 * Calculus I

Prerequisite: MTH 215 or Accuplacer test placement or MTH 216B or

ECO 203 * Principles of Microeconomics

ECO 204 * Principles of Macroeconomics

ACC 201 Financial Accounting Funds.

ACC 202 Managerial Accounting Funds.

Prerequisite: ACC 201

LAW 204 Legal Aspects of Business I

* May be used to meet General Education requirements

Requirements for the Major

(9 courses; 40.5 quarter units)

BIM 400 Info Mgmt in Organizations

MGT 309C Prin. of Mgmt & Organizations

MGT 400 Ethics in Law, Business & Mgmt

FIN 310 Business Finance

Prerequisite: ACC 201

MNS 407 Management Science

Prerequisite: MNS 205

MKT 302A Marketing Fundamentals

IBU 430 Survey of Global Business

Prerequisite: ECO 203, and ECO 204

MGT 451 Production & Ops Management I

BUS 480 Capstone: Integrated Bus Policy

Prerequisite: Completion of at least 9 BBA preparation and upper-division core courses

Upper-Division Electives

(7 courses; 31.5 quarter units)

Students may choose to take one of the BBA Concentrations listed below and/or appropriate elective courses to satisfy the total units for the degree with the following prefixes: ACC, BIM, BUS, ECO, FIN, HRM, LAW, LED, MGT, MKT, ODV or HUB.

Recommended Electives

FIN 446 International Financial Mgmt

Prerequisite: FIN 310

FIN 440 Financial Institutions

Prerequisite: FIN 310

HRM 409B Survey in HRM & OD

HRM 432 Recruit, Selection, Promo, Ret

HRM 439 Legal, Reg, & Labor Relation C

IBU 540 International Experience

LAW 305 Legal Aspects of Business II

Prerequisite: LAW 204

MGT 422 Team Bldg, Interpers Dynamics

MKT 430 Intro to Global Marketing

Prerequisite: MKT 302A

MKT 434 Intro to Market Research

Prerequisite: MKT 302A

MKT 443 Introduction to Advertising

Prerequisite: MKT 302A

New Concentration in Logistics and Supply Chain Management

Academic Program Director: Timothy Pettit; (858) 642-8687; tpettit@nu.edu

This concentration prepares students for analytical and managerial roles in organizations that ship goods around town or around the world. The logistics goal is to ensure orders are delivered on time and at a competitive cost, which is the cornerstone to aligning a global supply chain. Focus is on the growing realm of eCommerce and its complex Omni-channel distribution systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Employ logistics tools to optimize the flow of goods between global facilities.
- Appraise supply chain management business processes using cross-functional, inter-firm strategies.
- Analyze supply chain networks for efficient and effective, forward and reverse flow of goods to meet customer service goals.

Degree Requirements

Students must successfully complete the following courses for

a Concentration in Logistics and Supply Chain Management, with at least four of them in residence at National University. It is recommended that students take these courses toward the end of their program after completing the upper-division BBA core courses.

Prerequisite for the Concentration

(1 course; 4.5 quarter units)

MNS 407 Management Science
Prerequisite: MNS 205

Requirements for the Concentration

(6 courses; 27 quarter units)

SCM 400 Supply Chain Management
Prerequisite: MGT 451

LOG 410 Procurement and Inventory Mgt

LOG 420 Omni-channel Distribution

LOG 430 Global Logistics

Prerequisite: LOG 420

SCM 440 Cost and Risk in SCM

SCM 450 Network Modeling

Prerequisite: MNS 407, SCM 440

****For all other concentration requirements associated to the BBA, please refer to Catalog 82**

Concentration in Accountancy

Concentration in Alternative Dispute Resolution

Concentration in Business Law

Concentration in Economics

Concentration in Entrepreneurship

Concentration in Finance

Concentration in Human Resource Management

Concentration in Marketing

Concentration in Project Management

BACHELOR SCIENCE

MAJOR IN ACCOUNTANCY

*Academic Program Director: Consolacion Fajardo;
(916) 855-4137; cfajardo@nu.edu*

The major in Accountancy academically prepares students for a wide range of accounting-related careers, including public accounting, corporate accounting, internal audit, accounting in not-for-profit organizations, and job opportunities with state, local, and federal government agencies. The curriculum aligns with content specifications for various professional exams including CPA, CMA, and CIA. All students are advised to contact a full-time faculty member for a brief interview by phone or personal visit for the purpose of reviewing the student's career objectives.

Bachelor Science in Accountancy to Master Business Administration (BS ACC/MBA) Transition Program

Students who are currently enrolled in the Bachelor of Science in Accountancy program, have at least a cumulative GPA of

3.0, and are within six courses of graduation may register for the BS ACC/MBA transition program. Students in the BS ACC/MBA transition program may take up to three MBA classes as electives during the BS ACC. Students can select any three graduate-level accounting courses for which required course prerequisites (if any) have been met, or may select from the following MBA core courses: ECO 607, IBU 606, and MGT 603. Students must complete graduate-level coursework taken as part of the BS ACC degree with a grade of B or better. This coursework, which counts as electives in the BS ACC, will not transfer as graduate-level credit to National University or any other institution as it is part of an undergraduate degree program. Grades earned in graduate level courses will be calculated as part of the student's undergraduate grade point average. Students must apply for and begin the MBA program within six months after completing their final BS ACC course. The number of courses required to earn a MBA degree for transition program students is reduced from 12 to as few as 9 courses, depending on classes selected and grades earned. Students must complete their MBA program within four years with no break exceeding 12 months.

Online Course Availability

All of the coursework in this program can be taken online. Most online courses offer one or two live voice/visual evening sessions per week, in which instructors orally explain important concepts, visually illustrate problem-solving techniques, and respond to student questions. These sessions are recorded so that students who are unable to attend at the scheduled time can play back the video recording at a convenient time.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Utilize current technologies for presenting and analyzing accounting information
- Demonstrate mastery of a common body of accounting knowledge
- Develop ethical sensitivity to accounting scenarios
- Employ effective communication of accounting information
- Research issues to support critical assessment of accounting information
- Operate effectively in group settings to enhance student learning

Degree Requirements

To receive a Bachelor of Science with a major in Accountancy, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level, and a minimum 70.5 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy total units for the degree. The following courses are specific degree requirements. Refer to the section

of undergraduate admission requirements for specific information regarding admission and evaluation. All students receiving an undergraduate degree in Nevada are required by State Law to complete a course in Nevada Constitution.

Students who have completed the California Community College Associate in Science in Business for Transfer (AS-T) degree by completing the Transfer Model Curriculum (TMC) for business, will have completed the lower division requirements of the University General Education requirements and the Preparation for the Major”.

Preparation for the Major

(6 courses; 27 quarter units)

MNS 205*	Intro to Quantitative Methods
or	
MTH 215*	College Algebra & Trigonometry <i>Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B</i>
and	
ECO 203*	Principles of Microeconomics
ECO 204*	Principles of Macroeconomics
LAW 204	Legal Aspects of Business I
ACC 201**	Financial Accounting Funds.
ACC 202	Managerial Accounting Funds. <i>Prerequisite: ACC 201</i>

* May be used to meet General Education Requirements

** Eligible for Credit-by-exam waiver: Contact Academic Program Director

Prerequisite for all Accounting Courses

Students must have completed ACC 201 or its equivalent with a minimum grade of “C” within two years of taking any of the following accounting courses, unless a grade of 75 or better is received on an appropriate challenge exam.

Core Business Requirements

(4 courses; 18 quarter units)

BIM 400	Info Mgmt in Organizations
MGT 309C	Prin. of Mgmt & Organizations
FIN 310	Business Finance <i>Prerequisite: ACC 201</i>

and

MKT 302A	Marketing Fundamentals
or	
IBU 430	Survey of Global Business <i>Prerequisite: ECO 203, and ECO 204</i>

or

MNS 407 ^	Management Science <i>Prerequisite: MNS 205</i>
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^ (Recommended for students considering the CPA or CMA designation)

Accounting Requirements

(13 courses; 58.5 quarter units)

ACC 410A	Intermediate Accounting I <i>Prerequisite: ACC 201</i>
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ACC 410B	Intermediate Accounting II <i>Prerequisite: ACC 410A</i>
ACC 410C	Intermediate Accounting III <i>Prerequisite: ACC 410B</i>
ACC 431	Advanced Accounting <i>Prerequisite: ACC 410C</i>
ACC 432A	Taxation-Individual <i>Prerequisite: ACC 431</i>
ACC 432B	Taxation-Business <i>Prerequisite: ACC 432A</i>
ACC 433	Managerial Accounting <i>Prerequisite: ACC 202</i>
ACC 434	Government and Nonprofit Acct <i>Prerequisite: ACC 201</i>
ACC 436	Applied Tech for Accountants <i>Prerequisite: ACC 201</i>
ACC 515	Accounting Ethics
ACC 555	Data Analytics
ACC 435A	Auditing I <i>Prerequisite: ACC 431</i>
ACC 435B	Auditing II <i>Prerequisite: ACC 435A</i>

MAJOR IN CONSTRUCTION MANAGEMENT

Academic Program Director: Dirk Epperson;
(858) 309-3474; depperson@nu.edu

The purpose of the Bachelor of Science in Construction Management program is to provide students with a well-rounded education in technical construction fundamentals, written and verbal communication, mathematics, business, law, humanities, and natural sciences. This degree program will prepare the student for careers in management, administrative, and ownership positions in the construction industry such as construction executive, project manager, project engineer/coordinator, field engineer, planning/scheduling engineer, cost estimator, quality and safety controller, construction superintendent, and facilities engineer.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate knowledge of mathematics, science and engineering and its application in identifying, formulating, and solving construction problems.
- Design a construction system, process, or procedure to meet desired needs.
- Indicate a fundamental understanding of mechanical, electrical and structural systems, and sustainability.
- Integrate and apply field inspection and survey techniques, safety standards, and regulatory compliance.
- Apply the principles of project management, accounting, cost estimating and scheduling techniques in construction processes.
- Develop and test hypotheses, analyze and interpret data, and use scientific judgment to draw conclusions.

- Communicate effectively through written, verbal, and graphical media with a range of audiences.
- Understand legal aspects, ethical issues, and professional responsibilities in global, economic, environmental, and societal contexts.
- Function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Degree Requirements

To receive a Bachelor of Science in Construction Management, students must complete at least 180 quarter units to include a minimum of 70.5 units of the University General Education requirements; 76.5 units must be completed at the upper-division level and 45 units must be taken in residence, including the capstone project classes. In the absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. All students receiving an undergraduate degree in Nevada are required by State Law to complete a course in Nevada Constitution.

Preparation for the Major

(10 courses; 42 quarter units)

COM 103*	Public Speaking
MTH 215*	College Algebra & Trigonometry <i>Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B</i>
PHS 104 *	Introductory Physics <i>Prerequisite: 2 years of high school algebra and MTH 204 or MTH 215 or MTH 216A and MTH 216B</i>
PHS 104A^	Introductory Physics Lab (1.5 quarter units) <i>Prerequisite: PHS 104 or PHS 171 for science majors</i>
or	
PHS 130A**	Physics Lab for Engineering (1.5 quarter units)
ILR 260	Information Literacy <i>Prerequisite: ENG 100, and ENG 101</i>
EGR 219	Intro to Graphics and Auto CAD <i>Prerequisite: MTH 215</i>
EGR 220	Engineering Mathematics <i>Prerequisite: MTH 215</i>
EGR 225	Statics & Strength of Material <i>Prerequisite: EGR 220</i>
ACC 201	Financial Accounting Funds.
CSC 220	Applied Probability & Stats. <i>Prerequisite: MTH 215</i>

* May be used to meet General Education Requirements

^ For onsite students only

** For online students only

Requirements for the Major

(19 courses; 82.5 quarter units)

MGT 309C	Prin. of Mgmt & Organizations
EGR 310	Engineering Economics <i>Prerequisite: MTH 215</i>

EGR 320	Scientific Problem Solving <i>Prerequisite: EGR 220, CSC 208</i>
EGR 320L	Scientific Problem Solving-LAB (1.5 quarter units) <i>Prerequisite: EGR 320 with a minimum grade of C</i>
EGR 316	Legal Aspects of Engineering
DEN 308	Computer Aided Engineering I <i>Prerequisite: EGR 219</i>
CEN 320	Surveying, Metrics and GIS <i>Prerequisite: EGR 219</i>
CEN 323	Structural Analysis <i>Prerequisite: EGR 220, and EGR 225</i>
CEN 325	Soil Mechanics and Foundation <i>Prerequisite: CEN 323</i>
CEN 410	Constr Materials and Methods <i>Prerequisite: MTH 215</i>
CEN 413	Plans and Specifications <i>Prerequisite: EGR 219</i>
CEN 416	Mech and Electrical Systems <i>Prerequisite: MTH 215</i>
CEN 419	Est., Scheduling and Control <i>Prerequisite: CEN 410</i>
EGR 440	Project Management Fundamental
CEN 420	Est., Scheduling & Control II <i>Prerequisite: CEN 419</i>
CEN 422	Field Inspection and Safety <i>Prerequisite: CEN 410</i>
CEN 421	Constr, Acct, Finance and Law <i>Prerequisite: ACC 201</i>
CEN 425	Design & Const Process Integra
CEN 480	Sustainable Construction

Construction Senior Project

(3 courses; 13.5 quarter units)

CEN 486A	Construction Senior Project I <i>Prerequisite: Completion of 10 core courses in construction program.</i>
CEN 486B	Construction Senior Project II <i>Prerequisite: CEN 486A</i>
CEN 486C	Construction Senior Project III <i>Prerequisite: CEN 486B</i>

MAJOR IN CYBERSECURITY

Academic Program Director: William Reid; (858)309-3464; wreid2@nu.edu

The Bachelor of Science in Cybersecurity (BSCYB) program is designed to meet the increasing demand for cybersecurity professionals. This program is designed to provide students with an understanding of basic information technology management concepts and fundamental security skills. Students will also learn the legal and ethical issues associated with cybersecurity. Graduates are prepared for positions in the areas of security analysts, computer network defenders, and computer incident responders. Once students have completed the core cybersecurity classes, they will choose a four-class concentration in Computer Network Defense or Digital Forensics.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze a problem and design the cybersecurity measures appropriate to its solution.
- Apply concepts of best practices in cybersecurity management to enterprise processes.
- Describe the ethical challenges that confront a cybersecurity professional.
- Apply security control principles in the construction of cybersecurity solutions.
- Demonstrate written and oral communication skills expected of a cybersecurity professional.
- Demonstrate the ability to securely administer a Windows and Linux system using security automation tools and techniques.
- Demonstrate knowledge of the fundamental concepts of operating systems, networks, and cloud computing.

Degree Requirements

To receive a Bachelor of Science in Cybersecurity, students must complete at least 180 quarter units, 45 of which must be completed in residence at National University, 81 of which must be completed at the upper-division level, and a minimum 70.5 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy total units for the degree. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. All students receiving an undergraduate degree in Nevada are required by State Law to complete a course in Nevada Constitution.

Introduction

(1 course; 4.5 quarter units)

CYB 200 Introduction to Cybersecurity

Foundation Technologies

(5 courses; 22.5 quarter units)

CYB 211 Operating System Fundamentals

CYB 212 Introduction to Networking

CYB 213 Data Fundamentals for Cybersec
Prerequisite: CYB 200

CYB 215 Fund of Virt and Cloud Comp
Prerequisite: CYB 211, CYB 212

CYB 216 Programming for Cybersecurity
Prerequisite: CYB 215

First Core Sequence

(5 courses; 22.5 quarter units)

CYB 320 Tech Writing/Proj Mgmt for CYB

CYB 331 Secure Linux System Admin
Prerequisite: CYB 216

CYB 332 Secure Windows Administration

CYB 333 Security Automation
Prerequisite: CYB 331, CYB 332

CYB 340 Sys Sec Arch for Cybersec
Prerequisite: CYB 333

Second Core Sequence

(6 courses; 27 quarter units)

CYB 420 Sec Audit and Assessments
Recommended: Prior completion of: CYB 340 At least 13.5 units of the first core sequence must be completed before this course.

CYB 450 Cyber Threat Intelligence
Prerequisite: CYB 340

CYB 451 Incident Handling/Response
Prerequisite: CYB 340

CYB 452 Intro to Ethical Hacking
Prerequisite: CYB 340

CYB 453 Network Defense

CYB 454 Cybersec Planning and Policy
Prerequisite: CYB 340

Project

(3 courses; 13.5 quarter units)

CYB 499A Cybersecurity Project I
Prerequisite: Completion of Computer network defense concentration (CYB 460, CYB 461, CYB 462, CYB 463) or completion of Digital Forensics Concentration (CYB 470, CYB 471, CYB 472, CYB 473)

CYB 499B Cybersecurity Project II
Prerequisite: CYB 499A

CYB 499C Cybersecurity Project III
Prerequisite: CYB 499B

Concentration Computer Network Defense

The concentration in Computer Network Defense provides for greater focus on the security issues for computer networks.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate the ability to set up, implement and assess cybersecurity status of a computer system.
- Apply security controls affecting virtualized computing environment, a wireless network and an operating system.

Requirements for the Concentration

(4 courses; 18 quarter units)

CYB 460 Operating System Security
Prerequisite: CYB 420 and completion of all core CYB classes before starting the concentration, CYB 450, CYB 451, CYB 452, CYB 453, CYB 454

CYB 461 Wireless and Mobile Security
Prerequisite: CYB 460

CYB 462 Cloud and Virtualization Sec
Prerequisite: CYB 460

CYB 463 Advanced Network Defense
Prerequisite: CYB 460

Concentration Digital Forensics Concentration

The concentration in Digital Forensics provides for greater focus on investigation and analysis of computers and networks.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate the ability to conduct a digital forensics investigation on a server or workstation using commonly accepted standards and tools.
- Demonstrate the ability to preserve digital evidence using federal rules of digital evidence.
- Demonstrate the ability to conduct a digital forensics investigation on a mobile device using commonly accepted standards and tools.
- Examine digital evidence for indications of illegal malicious activity or malfeasance.

Requirements for Concentration

(4 courses; 18 quarter units)

CYB 470	Intro to Digital Forensics <i>Prerequisite: CYB 420 and completion of all core CYB classes before starting the concentration, CYB 450, CYB 451, CYB 452, CYB 453, CYB 454</i>
CYB 471	Operating Systems Forensics <i>Prerequisite: CYB 470</i>
CYB 472	Network Forensics <i>Prerequisite: CYB 470</i>
CYB 473	Mobile Device Forensics <i>Prerequisite: CYB 470</i>

MAJOR IN ELECTRICAL AND COMPUTER ENGINEERING

Academic Program Director: Peilin Fu; (858) 309-3432;
pfu@nu.edu

The Electrical and Computer Engineering program involves the study of hardware, software, communications, and the interactions between them. Its curriculum focuses on the theories, principles, and practices of traditional electrical engineering and mathematics and applies them to the design of computers and computer-based devices. Electrical and Computer Engineering students study the design of digital hardware systems including communications systems, computers, and devices that contain computers. They study software development, focusing on software for digital devices and their interfaces with users and other devices. The program emphasizes a balanced approach between hardware and software, both built on an engineering and mathematics foundation. Currently, a dominant area within Electrical and Computer engineering is embedded systems, the development of devices that have software and hardware embedded within. For example, devices such as cell phones, digital audio players, digital video recorders, alarm systems, x-ray machines, and laser surgical tools all require integration of hardware and embedded software and all are the result of computer engineering. The undergraduate program is structured to establish analytical thinking and design skills in areas such as computer architecture, digital logic design, circuits analysis, computer communication networks, digital computer control, integrated circuit engineering, project management, VLSI design, digital signal processing and

embedded systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply knowledge of mathematics, science, and engineering to solve problems.
- Analyze and interpret data.
- Design a component, a system, or a process to meet desired needs within realistic constraints.
- Function on a team and be able to communicate orally and in writing to accomplish a common goal.
- Identify, formulate, and solve engineering problems.
- Use professional ethics in making engineering decisions.
- Identify the impact of engineering solutions in a global, and economic environment.
- Use the techniques, skills, and modern engineering tools necessary for engineering practice.

Degree Requirements

To receive a Bachelor of Science in Electrical and Computer Engineering, students must complete at least 180 quarter units to include a minimum of 70.5 units of the University General Education requirements; 76.5 quarter units must be completed at the upper-division level, and 45, including the senior project courses (CEE498, CEE499A and CEE499B), must be taken in residence at National University. In the absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. All students receiving an undergraduate degree in Nevada are required by State Law to complete a course in Nevada Constitution.

Prerequisites for the Major

(8 courses; 33 quarter units)

MTH 215*	College Algebra & Trigonometry <i>Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B</i>
PHS 104*	Introductory Physics <i>Prerequisite: 2 years of high school algebra and MTH 204 or MTH 215 or MTH 216A and MTH 216B</i>
PHS 104A^	Introductory Physics Lab (1.5 quarter units) <i>Prerequisite: PHS 104 or PHS 171 for science majors</i>
or	
PHS 130A**	Physics Lab for Engineering (1.5 quarter units)
CSC 208*	Calculus for Comp. Science I <i>Prerequisite: MTH 215</i>
CSC 209	Calculus for Comp. Science II <i>Prerequisite: CSC 208</i>
CSC 220	Applied Probability & Stats. <i>Prerequisite: MTH 215</i>
CSC 242	Intro to Programming Concepts <i>Prerequisite: MTH 215</i>
CSC 252	Programming in C++ <i>Prerequisite: CSC 242</i>

* May be used to meet General Education Requirements

^ For onsite students only

** For online students only

Requirements for the Major

(24 Courses; 93 quarter units)

PHS 231	Calculus-based Physics 1 <i>Prerequisite: PHS 104, and MTH 220, or CSC 208, and MTH 221, or CSC 209</i>
PHS 232	Calculus-based Physics 2 <i>Prerequisite: PHS 104 PHS 231, MTH 220 or CSC 208, and MTH 221 or CSC 209</i>
CSC 300	Object Oriented Design <i>Prerequisite: CSC 252 or CSC 272</i>
CSC 350	Computer Ethics
CEE 300	Engineering Numerical Methods <i>Prerequisite: CSC 209 and CSC 310</i>
CSC 310	Linear Algebra and Matrix Comp <i>Prerequisite: CSC 252 or CSC 272</i>
CSC 331	Discrete Structures and Logic <i>Prerequisite: CSC 252 or CSC 272</i>
CEE 310	Circuit Analysis <i>Prerequisite: CEE 300</i>
CEE 310L	Circuit Analysis Lab (1.5 quarter units) <i>Corequisite: CEE 310</i>
CSC 340	Digital Logic Design <i>Prerequisite: CSC 331, Corequisite: CSC 340L</i>
CSC 340L	Digital Logic Design Lab (1.5 quarter units) <i>Corequisite: CSC 340, Prerequisite: CSC 331</i>
CSC 342	Computer Architecture <i>Prerequisite: CSC 340 and CSC 340L</i>
CEE 420	Microelectronics <i>Prerequisite: CEE 310</i>
CEE 420L	Microelectronics Lab (1.5 quarter units) <i>Corequisite: CEE 420</i>
CSC 436	Comp. Communication Networks <i>Prerequisite: CSC 331</i>
CEE 324	Linear Systems and Signals <i>Prerequisite: CEE 310</i>
CEE 324L	Linear Systems and Signals Lab (1.5 quarter units) <i>Corequisite: CEE 324</i>
CEE 430	Digital Signal Processing <i>Prerequisite: CEE 324</i>
CEE 340	Embedded Systems <i>Prerequisite: CSC 208 and CSC 252 or CSC 262</i>
CEE 340L	Embedded Systems Lab (1.5 quarter units) <i>Corequisite: CEE 340</i>
CEE 440	VLSI Design <i>Prerequisite: CEE 420</i>
CEE 498	Capstone Design Project I <i>Prerequisite: Complete all core courses except CEE499 OR Permission of the program lead.</i>
CEE 499A	Capstone Design Project II <i>Prerequisite: CEE 498</i>
CEE 499B	Capstone Design Project III <i>Prerequisite: CEE 499A</i>

MAJOR IN NURSING (B.S.N.) RN COMPLETION

Academic Program Director: Hope Farquharson;
(858) 521-3947; hfarquharson@nu.edu

The RN to BSN Program is delivered in a both online and hybrid format. Courses are 4 or 8 weeks in length. The program provides a foundation for professional nursing practice at the baccalaureate level. The program is accredited by the American Association of Colleges of Nursing (AACN), Commission on Collegiate Nursing Education (CCNE).

Upon acceptance to the program, applicants will be required to provide proof of a current, active, and unencumbered RN license in the State of residence. Additionally, applicants are required to provide evidence of current, active professional liability, malpractice insurance coverage for practicum course, and provide evidence of current AHA Healthcare Provider BLS CPR Card throughout the program.

Admission Requirements

1. Meet all requirements for admission to an undergraduate degree program at the University as outlined in the University Catalog.
2. Have obtained a 2.0 cumulative GPA from a regionally or nationally accredited institution.
3. Submit a separate application for admission into the RN to BSN Program.
4. Provide one official transcript from each college or university attended.

Additional Prerequisite Requirement

Students should be proficient in operating a personal computer, including:

1. Demonstrated competency in standard computer operating systems, electronic filing systems, basic keyboarding skills, organizing and sorting electronic documents.
2. Demonstrated knowledge of standard computer applications to include Microsoft Word, Excel, and PowerPoint and familiarity with using internet browsers and standard email systems such as MS Outlook.

Admission Process

Admission into the RN to BSN Program at National University is a two-step process:

- 1) Application to the University, and
- 2) Application to the RN to BSN Program.

For information about the program and how to obtain the RN to BSN Program application, students should email the Admissions Coordinator at RNCompletion@nu.edu.

Prospective students should follow the University application requirements listed in the "Academic Information for Undergraduate Degree Admission Procedures" section of this catalog. A prospective student should first meet with an

advisor. Advisors are located at each of the University campus offices and are available online. The prospective student should arrange to have transcripts from all other colleges and universities sent to National University.

Following the receipt of all application items, the prospective student's packet will be reviewed. Admission will be offered to students achieving complete applicant files, until all class positions are filled. The prospective student will receive a letter via email regarding this decision.

Students are not eligible for financial aid until the RN to BSN Program application, evaluation packet, and the formal degree evaluation are completed by the Office of the Registrar.

The Department of Nursing requires that students who participate in practicums at healthcare related facilities maintain current health insurance coverage and a current AHA Healthcare Provider BLS CPR Card. NOTE: students may be required to provide proof of current immunizations and a clear background check depending on practicum location selection.

Program Advisement

All accepted students will be assigned a Nursing Faculty Counselor. Students are encouraged to periodically communicate with both the Nursing Faculty Counselor and their assigned advisor throughout the program.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Develop caring, therapeutic nursing relationships with individuals, families, groups and populations.
- Provide safe, high quality, culturally competent, patient-centered nursing care for individuals across the life span in a variety of settings.
- Participate in the continuous improvement of nursing care quality and safety.
- Use nursing judgment to manage, prioritize, and delegate patient care in a variety of health care settings.
- Effectively communicate and collaborate with patients and the interdisciplinary team.
- Demonstrate professional identity by incorporating established standards of practice within the legal and ethical framework of nursing.
- Apply best, current evidence into nursing practice to achieve desired outcomes.

Degree Requirements

To receive a Bachelor of Science in Nursing (BSN), students must complete 180 quarter units as articulated in the general catalog, 45 quarter units must be completed at National University, 76.5 quarter units must be completed at the upper-division level and the program must fulfill a minimum 70.5 quarter units of the University General Education

requirements. In absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree. Remedial courses accepted for the ASN degree may not transfer. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation.

A maximum of 45 quarter units (30 semester units) of lower division credit may be allowed for clinical courses for a registered nurse who is a graduate of a three-year hospital nursing school. Up to 22.5 quarter units (15 semester units) of additional lower division credit may be granted for academically equivalent coursework. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. A maximum of 31.5 quarter units may apply toward the baccalaureate nursing (RN to BSN) degree if a student has passed the NCLEX-RN examination.

Requirement for Major

(1 Course; 4.5 quarter units)

SOC 350* Cultural Diversity

Prerequisite: ENG 100 and ENG 101

* May be used to meet the Upper division General Education requirement.

Nursing Core Courses

(10 courses; 43.5 quarter units)

HTM 310	Health Informatics
NSG 303	Professional Issues for RNs
BST 322	Intro to Biomedical Statistics
NSG 443	Evidence Based Practice
NSG 442	NSG Leadership and Management <i>Corequisite: NSG 442A</i>
NSG 442A	NSG LDRSHP & MGMT Practicum (3 quarter units) <i>Corequisite: NSG 442</i>
NSG 444	Community Population NSG (6 quarter units) <i>Corequisite: NSG 444A</i>
NSG 444A	Comm Pop NSG Practicum (3 quarter units) <i>Corequisite: NSG 444</i>
NSG 447	Qual Improvement <i>Corequisite: NSG 447A</i>
NSG 447A	Qual Improvement Practicum <i>Corequisite: NSG 447</i>

Upper-Division Electives

(7 courses; 31.5 quarter units)

In the absence of upper-division transfer units, additional quarter units of upper-division coursework may be needed to meet the minimum upper-division requirement of 76.5 quarter units. Electives should be chosen in consultation with the faculty and/or admission advisor.

Students should choose from the following Upper Division

Electives:

HSC 330	Health Education & Promotion
HSC 310	Issues & Trends in Healthcare
HSC 300	Legal/Ethical Issues & Hlth Pr
SPN 340A	Spanish for the Work Place
SPN 341	Cross-Cultural Communication
PHL 337	Ethics <i>Prerequisite: ENG 100 and ENG 101</i>
GER 310	Healthy Aging

MINOR

MINOR IN BUSINESS LAW

Academic Program Director: Bryan Hance;
(310) 662-2115; bhance@nu.edu

This minor is designed to provide students who have an interest in a career in law, business, or government, with an understanding of the complex legal issues that exist in today's business environment.

Preparation for the Minor

(4.5 quarter units)

LAW 204	Legal Aspects of Business I
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Requirements for the Minor

(6 courses; 27 quarter units)

LAW 400	Current Legal Issues
LAW 305	Legal Aspects of Business II <i>Prerequisite: LAW 204</i>
ADR 400	Alternative Dispute Resolution
ADR 405	Negotiation Fundamentals

Choose **two (2)** from the following:

LAW 440	Comparative International Law
LAW 445	Administrative Law for Business
LAW 455	Public Contracting

GRADUATE PROGRAM INFORMATION

MASTER OF FINE ARTS DIGITAL CINEMA PRODUCTION

*****THIS PROGRAM IS NOT ACCEPTING APPLICATIONS AT THIS TIME*****

PROGRAM MODIFICATION

MASTER OF PUBLIC ADMINISTRATION

Academic Program Director: Kenneth Goldberg;
(858) 642-8217; kgoldberg@nu.edu

The Master of Public Administration (MPA) is designed for students who want to pursue a career in government management at the federal, state, or local level and nonprofit management. The program is delivered and maintained through designed structured learning objectives within each

class, all of which are foundational to the culminating research activity. The degree provides a wide range of skills in financial management, budgeting, quantitative methods, urban planning and redevelopment, personnel policies, politics, and grant writing. The focus on continuous improvement of written and oral communication skills through course requirements utilizing case studies, research papers and oral presentations further strengthens the skills developed and mastered. The requirement for the MPA student to complete research in a Capstone Project further bridges theory and practice.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Utilize critical thinking and research methods relevant to public administration in a multi-cultural environment.
- Evaluate the concept of new public management within a historical context.
- Analyze the impact of political influences on the public sector decision-making process.
- Analyze the division of power within American government as established by the U.S. Constitution.
- Describe, analyze, and evaluate the various approaches to managing government employees.
- Evaluate the effectiveness of public administration strategies for dealing with the media, community, and local government agencies.
- Evaluate the impact of public administration decisions on urban planning and redevelopment.
- Synthesize resources and approaches for developing grant proposals for community programs and services.

Degree Requirements

To be awarded a Master of Public Administration, students must complete at least 54 quarter units of graduate work. A total of 13.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided the units were not used in earning another advanced degree. Students should refer to the section on graduate admission requirements for specific information regarding application and evaluation.

For students in the Bachelor of Public Administration/BS in Criminal Justice Administration/BS in Domestic Security Management/BA Political Science/MPA transition program, the University will waive up to two public administration courses taken as part of the bachelor's degree (see BS in Bachelor of Public Administration/Criminal Justice Administration/BS in Domestic Security Management/BA Political Science transition program), but these students must still meet the residency requirements for the MPA. The number of courses waived is dependent on the courses taken and grades earned in the transition program.

Core Requirements

(8 courses; 36 quarter units)

PAD 620	Foundations of Public Admin
PAD 622	Seminar in Urban Affairs
PAD 626	Public Personnel Policy
PAD 627	Quantitative Methods
PAD 628	Ethics
PAD 631	Urban Planning & Redevelopment
PAD 632	Finance Mgt & Grant Admin
PAD 644	MPA Project

Program Electives

(4 courses; 18 quarter units)

Students must complete four graduate courses from the following subject areas to meet the elective requirement: CJA, HUB, PAD, SCD, HRM, LED. Students who elect to have an area of specialization are not required to take additional elective requirements.

Specialization in Human Resource Management

Academic Program Director: Bernadette Baum; (858) 642-8404; bbaum@nu.edu

This area of specialization focuses on managing people, the human resource of the organization. Moving beyond common sense and good interpersonal skills, these courses provide students with the knowledge to recruit, select, train, evaluate and compensate employees. Students learn how changes in the workplace, such as governmental regulations, global competition, developing technologies and organizational transformations, influence the performance and productivity of workers. Technical knowledge and practical skills for dealing with a multicultural workforce offer students new ideas on leadership and effective tools for managing human resource.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Complete a job analysis of a specific job to be used for recruiting, selection, performance appraisal, training and compensation.
- Develop a recruiting plan and design a selection process for recruiting, interviewing, and selecting candidates for employment for jobs within an organization.
- Conduct a needs assessment and design a training program for current employees on a specific topic related to organizational goals.
- Assess benefits relevant to the employee population and organizational structure, and formulate a compensation system based upon merit, knowledge, and skill acquisition.
- Recognize, analyze, and effectively address ethical, legal and safety challenges faced in the workplace, and develop methods designed to prevent employer liability.

Specialization Requirements

(4 courses; 18 quarter units)

HRM 630	Legal, Ethical & Safety Issues
HRM 637	Workforce Plan, Dev & Outsourc
ODV 606	Seminar in Training & Developm
HRM 667	Compensation & Benefits

Specialization in Organizational Leadership

Academic Program Director: Julia Buchanan; (858) 642-8453; jbuchanan@nu.edu

The purpose of the area of specialization in organizational leadership is to provide students with the skills and theoretical concepts that will assist them when seeking promotions or positions in management and supervision. This area of specialization is designed to prepare diverse adult learners to become effective, change oriented leaders in an international society by adding distinctive and challenging curricula.

This area of specialization is ideal for individuals who desire to understand the technical and reflective processes that often accompany opportunities to exercise leadership in profit and not for profit organizations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Distinguish between multiple approaches for exercising leadership to promote innovation and confront complex issues within organizations.
- Interpret organizational dynamics, group dynamics and engage in systems thinking in order to promote the development of a learning organization capable of innovation, adaptation, and orchestrating conflict.
- Evaluate ethical issues and aid organizational members in creating ethical culture appropriate to the organizational and global environment that supports operating in environments of diversity, uncertainty and unpredictability.
- Distinguish between the functions of authority, power, the practice of leadership, and utilize frameworks that serve organizational purposes.

Specialization Requirements

(4 courses; 18 quarter units)

LED 602	Developing Groups and Teams
LED 603	Leadership in the 21st Century
LED 604	Leading Change and Adaptation
LED 605	Conflict and Power Dynamics

MASTER OF PUBLIC HEALTH

Academic Program Director: Stephen Bowman; (858) 309-3455; sbowman@nu.edu

The Master of Public Health (MPH) is a graduate professional degree designed to prepare students for leadership positions in health promotion and disease prevention, community

mental health or public healthcare administration. Public Health involves multidisciplinary and collaborative strategies for solving health related problems and promoting social justice including programs that serve the public sector at all levels—local, state, federal, and global. Faculty members have expertise and experience in public health applied research and in higher education.

The MPH program emphasizes the application of broad-based, state-of-the-art quantitative and qualitative skills needed for problem-solving. Special attention is given to enhancement of communication skills needed to work with diverse populations. Ideal candidates for the MPH program are those students looking for career advancement within the public health sector; and those looking for career transition into public health from other health professions. Graduates will enhance their opportunities for professional growth and job placement through carefully planned internships and a comprehensive capstone experience. The MPH program is accredited by the Council on Education for Public Health (CEPH).

Admission Requirements

1. Successful completion of college level introductory statistics course such as BST322 or MTH210.
2. Have completed baccalaureate degree with a 2.85 cumulative GPA from regionally accredited institutions attended.

Additional Prerequisite Requirement

Students should be proficient in operating a personal computer, including standard computer operating systems, electronic filing systems, basic keyboarding skills, organizing and sorting electronic documents. Knowledge of standard computer applications to include Microsoft Word, Excel, and PowerPoint and familiarity with using internet browsers and standard email systems such as MS Outlook is required.

In accordance with the competency guidelines established by the National Commission for Health Education Credentialing (NCHCE) and the Council on Education for Public Health (CEPH), the Master of Public Health program prepares graduates to master the following program learning outcomes.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Apply epidemiologic methods to public health research, policy and practice
- Explain the critical importance of evidence in advancing public health knowledge
- Apply the concepts and methods of social justice and social and behavioral sciences relevant to the identification and solution of public health problems.
- Analyze the planning, organization, administration, and policies of healthcare organizations

- Apply the principles of leadership to address public health challenges
- Communicate appropriate public health content in writing and through oral presentation in a culturally competent and effective manner

Degree Requirements

To receive an MPH degree, students must complete at least 72 quarter units of graduate work including the core MPH requirements and one area of specialization. A total of 13.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and provided the units were not used in earning another advanced degree. Refer to the section on graduate admission requirements for specific information regarding application and evaluation.

Core Requirements

(8 courses; 33 quarter units)

COH 599	Public Health Foundation (1.5 quarter units)
HCA 600	U.S. Healthcare System
COH 601	Global Public Health <i>Prerequisite: HCA 600</i>
COH 602	Biostatistics
COH 604	Theories of Health Behavior
COH 606	Epidemiology <i>Prerequisite: COH 602 or ANA 602</i>
COH 611	Public Health Research Methods
COH 612	Health Policy and Advocacy

Specialization in Community Mental Health

Students in the specialization in Mental Health will be prepared for leadership positions in planning, implementing and evaluating community-wide prevention programs to enhance mental health.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Assess the social, political, and environmental context of mental health in relation to public health practice.
- Plan mental health interventions and programs.
- Conduct evaluations related to mental health.
- Relate fundamental principles of epidemiology to mental and substance abuse disorders.
- Apply appropriate research principles and techniques to mental health.
- Advocate for mental health in communities.

Requirements for the Specialization

(7 courses; 31.5 quarter units)

COH 623	Mental Health Services
COH 627	Mental Health Populations
COH 621	PH Aspects of Drug Addiction <i>Prerequisite: COH 602</i>
COH 616	Mental Health Promotion

COH 614	Psychosocial Epidemiology <i>Prerequisite: COH 606</i>
COH 617	PH Aspects of Violence <i>Prerequisite: COH 604</i>
COH 619	PH Aspects of Human Sexuality <i>Prerequisite: COH 604</i>

Health Experience

(1 course; 3 quarter units)

COH 550	Global Health Experience (3 quarter units)
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or

COH 693C	Mental Health Experience (3 quarter units) <i>Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693C</i>
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Capstone Requirement

(1 course; 4.5 quarter units)

COH 694C	Mental Health Capstone <i>Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694C</i>
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Specialization in Health Promotion

The specialization in Health Promotion will prepare MPH students for leadership positions in health promotion, health education and health enhancement. The program emphasizes the planning, implementation and evaluation of community-wide prevention programs. The pursuit of social justice and global health are overarching concepts throughout the MPH program.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Assess factors that influence, enhance or impede health promotion.
- Explain factors that influence implementation of health promotion programs.
- Evaluate the implementation of health promotion programs.
- Integrate the results of health promotion evaluation into interventions and policies.
- Apply principles of financial management, information technology, human resource management and community building to build or enhance health promotion programs.
- Provide advice and consultation on health promotion issues.
- Apply appropriate research principles and techniques to develop health promotion programs.

Requirements for the Specialization

(7 courses; 31.5 quarter units)

COH 603	Public Health Biology
COH 608	Public Health & the Enviro
COH 605	Public Health Promotion <i>Prerequisite: COH 604</i>
COH 607	Public Health Program Develop <i>Recommended Preparation: COH 604</i>

COH 609	PH Program Evaluation
COH 618	Health Promotion Strategies <i>Prerequisite: COH 605, and COH 609</i>
COH 613	Public Health Informatics <i>Prerequisite: COH 606</i>

Health Experience

(1 course; 3 quarter units)

COH 550	Global Health Experience (3 quarter units)
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or

COH 693A	Health Promotion Experience (3 quarter units) <i>Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693A.</i>
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Capstone Requirement

(1 course; 4.5 quarter units)

COH 694A	Health Promotion Capstone <i>Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694A</i>
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Specialization in Healthcare Administration

The Specialization in Healthcare Administration will prepare MPH students for leadership positions in public and private healthcare. Healthcare management involves the organization, financing and delivery of services to prevent and treat illness and disease.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Conduct financial analysis, explain financial and accounting information, and make long-term investment decisions for a healthcare organization.
- Apply healthcare management methods to healthcare organizations.
- Use administrative and health information technology to develop process and performance improvement plans.
- Incorporate the principles of quality management for improving outcomes in healthcare organizations.
- Synthesize best practices in healthcare leadership.

Requirements for the Specialization

(7 courses; 31.5 quarter units)

HCA 620	Health Organization Management <i>Prerequisite: COH 602</i>
HCA 626 **	Healthcare Information Systems <i>Prerequisite: ANA 630</i>
HCA 622	Quality Appraisal & Evaluation <i>Prerequisite: HCA 600, and HCA 620</i>
HCA 628	HA Human Resources Management
HCA 663	Healthcare Accounting/Finance <i>Prerequisite: HCA 628</i>
HCA 624	Healthcare Planning & Marketing <i>Prerequisite: COH 611</i>
HCA 670	Healthcare Leadership <i>Prerequisite: HCA 624</i>

** ANA prerequisite is **NOT** required for students in the Specialization in Healthcare Administration

Health Experience

(1 Course; 3 quarter units)

COH 550 Global Health Experience
(3 quarter units)

or

COH 693B Healthcare Admin Experience
(3 quarter units)
Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693B

Capstone Requirement

(1 course; 4.5 quarter units)

COH 694B Healthcare Admin Capstone
Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694B

MASTER OF SCIENCE IN DATA SCIENCE

Academic Program Director: Jodi Reeves;
(858) 309-3426; jreeves@nu.edu

Apply statistical methods to solve real-world problems and prepare for careers in data science. Core courses include data modeling, data management, and data mining of continuous, categorical, and multivariable data. Advanced specializations focus on database analytics, business analytics, or health analytics. The program culmination is a three-month capstone where real data from sponsoring organizations or publicly available data will be used in a data science project to demonstrate mastery in data acquisition, cleaning, analysis, modeling, and visualization.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Integrate components of data science to produce knowledge-based solutions for real-world challenges using public and private data sources.
- Evaluate data management methods and technologies used to improve integrated use of data.
- Construct data files using advanced statistical and data programming techniques to solve practical problems in data analytics.
- Design an analytic strategy to frame a potential issue and solution relevant to the community and stakeholders.
- Develop team skills to ethically research, develop, and evaluate analytic solutions to improve organizational performance.

Degree Requirements

To obtain the Master of Science in Data Science, students must complete at least 63 graduate units. A total of 13.5 quarter units of graduate credit may be granted for equivalent graduate work completed at another regionally accredited institution, as it applies to this degree, and provided the units were not used in earning another advanced degree. Please refer to the graduate admissions requirements for specific information regarding application and evaluation.

Program Requirements

(14 courses; 63 quarter units)

Core Requirements

(7 courses; 31.5 quarter units)

ANA 600 Fundamentals of Analytics
ANA 605 Analytic Models & Data Systems
Prerequisite: ANA 600
ANA 610 Data Management for Analytics
ANA 615 Data Mining Techniques
Prerequisite: ANA 610
ANA 620 Continuous Data Methods, Appl
Prerequisite: ANA 615
ANA 625 Categorical Data Methods, Appl
Prerequisite: ANA 620
ANA 630 Advanced Analytic Applications
Prerequisite: ANA 625

Students must select **one** of the area of specializations.

Capstone Requirements

(3 courses; 13.5 quarter units)

Students must complete all core and area of specialization courses prior to starting the capstone course sequence.

ANA 699A Analytic Capstone Project I
Prerequisite: All core and specialization courses in an analytics program with a minimum GPA of 3.0 or approval of Lead Faculty.
ANA 699B Analytic Capstone Project II
Prerequisite: ANA 699A
ANA 699C Analytics Capstone Project III
Prerequisite: ANA 699B

Specialization in Business Analytics

Academic Program Director: Farnaz Sharifrazi;
(858) 642-8468; fsharifrazi@nu.edu

The specialization in Business Analytics is designed to prepare students to apply scientific knowledge to big data to find practical patterns for decision making. Organizations measure their operations, forecasting, and future strategic plans scientifically through analyzing data in marketing, sales, finances, and supply chain areas.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Evaluate data models to analyze the performance of supply chain processes.
- Analyze data to predict business outcomes in marketing processes.
- Design an probabilistic finance model to forecast business outcomes.
- Apply security, privacy, and ethical measures using data and analytical models to business processes.

Requirements for the Specialization

(4 courses; 18 quarter units)

BAN 640	Performance MGT & SCM Process
BAN 645	Prediction in Marketing
BAN 650	Probabilistic Finance Models
BAN 655	Analytical Security & Ethics

Specialization in Database Analytics

Academic Program Director: Jodi Reeves; (858) 309-3426
jreeves@nu.edu

Specialization topics include how to develop, implement, and maintain the hardware and software tools needed to make efficient and effective use of big data including databases, data marts, data warehouses, machine learning, and analytic programming.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Design data marts.
- Analyze complex database queries for real-world analytical applications.
- Design medium-to-large data warehouses.
- Evaluate machine learning methods and strategies for advanced data mining.

Requirements for Specialization

(4 courses; 18 quarter units)

ANA 650	Database Design for Analytics
ANA 655	Data Warehouse Design & Devel <i>Prerequisite: ANA 650</i>
ANA 660	Advanced SQL Programming <i>Prerequisite: ANA 655</i>
ANA 665	Data Mining & Machine Learning <i>Prerequisite: ANA 660</i>

Specialization in Health Analytics

Academic Program Director: Tyler Smith; (858) 309-3487;
tsmith@nu.edu

The Specialization in Health & Life Science Analytics is designed to provide students with a practical learning experience through application of statistical methods to solve real-life health and life science analytics problems. The goal of this specialization is to prepare students for careers in health analytics and the pharmaceutical industry. To address the spectrum of issues in health and life science analytics, this curriculum has been designed to include specialized courses in analytic topics relative to the health and clinical fields. Topics include analytical and predictive modeling, data acquisition, data mining, health care information management systems, epidemiology, health management, clinical research, clinical trials, health outcomes research, teamwork, and communication. Additionally, team projects are conducted using real data from sponsoring organizations or publicly available data. Previous academic or industrial experience in such areas as statistics, computer programming, engineering, epidemiology, healthcare, clinical trials, or science are helpful

prerequisites for this MS program. This degree is appropriate for both experienced professionals as well as recent college graduates.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Analyze the planning, organization, administration and policies of healthcare organizations using health analytic methods.
- Evaluate healthcare information system technologies through integration and interoperability of health data.
- Integrate data and analytic techniques to establish financial priorities of a healthcare organization in line with the needs and values of the community and stakeholders it serves.
- Analyze the distribution and determinants of disease and health outcomes in human populations.

Requirements for the Specialization

(4 courses; 18 quarter units)

HCA 626	Healthcare Information Systems <i>Prerequisite: ANA 630</i>
COH 606	Epidemiology <i>Prerequisite: COH 602, or ANA 630</i>
ANH 604	Clinical Research Analytics
ANH 607	Health Outcomes Research

SANFORD COLLEGE OF EDUCATION

PROGRAM TERMINATIONS

- **AREA OF SPECIALIZATION IN NATIONAL BOARD TEACHING – Associated to Master of Science in Advanced Teaching Practices**
(All other specializations associated to the Master of Science in Advanced Teaching Practices may be referenced in Catalog 82)

GRADUATE PROGRAM INFORMATION

MASTER OF EDUCATION IN INSPIRED TEACHING AND LEARNING WITH A PRELIMINARY MULTIPLE OR SINGLE SUBJECT TEACHING CREDENTIAL AND INTERNSHIP OPTION (CA)

Academic Program Director: Clara Amador-Lankster; (310) 662-2139; camadorl@nu.edu

The Master of Education in Inspired Teaching and Learning with a Multiple or Single Subject Teaching Credential and Internship Option is designed for candidates dedicated to inspiring all K-12 learners by ensuring social emotional thriving, meaningful academic achievement, and equitable and inclusive learning communities. Courses meet the new California Commission on Teacher Credentialing (CTC) Program Standards, including the new 45 Teaching

Performance Expectations (TPEs), composing the TPEs six domains and Teaching Performance Assessments (TPA) associated with the revised 2.0 CalTPA model. This degree meets all CTC requirements for a Preliminary Multiple or Single Subject teaching credential and those requirements for a master's degree. Students in this degree complete a three-course emphasis in one of the following areas: Critical Thinking, English Language Learner Education, Inspired Teaching Practices or Social Emotional Learning.

***Please Note:** Students need to satisfy/pass the Basic Skills Requirement (e.g., CBEST) and Subject Matter Competency Requirement (e.g., CSET) early (prior to Credential Area Methods coursework) into their programs to avoid interruptions to program progress and/or financial aid arrangements.

For additional information on credential requirements, please see the Sanford College of Education Credential Information section of the catalog.

Note: Candidates who **ALREADY HOLD** a Preliminary Multiple or Single Subjects Teaching Credential and desire an advanced degree should enroll in the Master of Science in Advanced Teaching Practices.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Integrate the knowledge needed for engaging/supporting all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for creating/maintaining effective learning environments for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for making subject matter comprehensible for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for designing/planning learning experiences for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for assessing all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for being a legal, ethical, and professional educator for all K-12 learners, including those with diverse learning needs.
- Reflect critically about professional beliefs and practices in the application of teaching, learning principles, and research needed to inspire K-12 learners as well as being an inspired teacher.

Degree Requirements

To receive a Master of Education with California Inspired Teaching and Learning Preliminary Multiple Subject Teaching Credential candidates must complete at least 63 quarter units of graduate credit, or Master of Education with California Inspired Teaching and Learning Preliminary Single Subject Teaching Credential, candidates must complete at least 58.5 quarter units of graduate credit. Students must complete 54 units in residence at National University. Further information on graduate admission and evaluation can be found in the Academic Information for Graduate Degrees section of the catalog.

A number of requirements must be completed prior to beginning the credential courses, including the successful completion of the Credential Packet, which includes a number of requirements, such as cleared background clearance and negative TB test. To better understand the requirements, please refer to the Sanford College of Education's Credential Information section located in this catalog.

The CBEST and CSET must be passed prior to beginning the Multiple Subject or Single Subject Methods courses.

Each Teacher Education/credential course (ITL) includes a required 4-hour field experience in a K-12 classroom representing the candidates credential area and a diverse student population, with the exception of the clinical practice courses.

Candidates choosing the Internship option to obtain the Preliminary Multiple or Single Subject Teaching Credential will need to meet the Internship Eligibility requirements as outlined in the Sanford College of Education Credential Information section of the catalog.

Internship Option: The Commission on Teacher Credentialing (CTC) mandates all approved intern programs provide a minimum of 120 hours of pre-service coursework prior to becoming Intern Eligible. Candidates can meet the 120 hours requirement through one of two pathways. Complete the foundation sequence of ITL 600, ITL 604, ITL 606, ITL 608; pass CBEST; pass CSET; and have a school or district letter verifying a teaching position job offer as the 'teacher of record'. The CA Education Code stipulates a minimum of 144 hours of support and supervision must be provided to the candidate each year of intern employment and documented. Interns without a valid English Learner (EL) Authorization from CTC will be required to receive an additional 45 hours of EL preparation support each year of intern employment (Total: 189 hours).

This Internship Option requires the successful completion of the internship clinical practice experience (minimum 1 year).

The CA Commission on Teacher Credentialing requires an intern-candidate holding a valid University Internship

Credential to be continuously enrolled in clinical practice support and supervision. During the first-year, the intern will take ITL 650A and ITL 651A, ITL 650B and ITL 651B. In the event, the intern has not met all program requirements during the first year and the intern's employment continues during the second year, for National University to provide additional ongoing support and supervision, the intern will be enrolled in ITL 650C and, if needed ITL 650D. To be granted an extension for the third year of the intern, and if the intern is still employed, then, for those interns who can document a medical emergency or other extreme circumstance(s), one (ITL 650E) or both (ITL 650E and ITL 650F) courses may be granted through the University's petition process, with decisions considered on a case-by-case basis.

Interns in the Early Completion Option (ECO) route are still required to receive the general support and supervision provided to all interns while they are serving on an Intern credential.

Program Requirements

(Multiple Subject 17 courses; 63 quarter units or
Single Subject 16 courses; 58.5 quarter units)
Includes all foundation, credential area method courses, and those clinical practice courses granting graduate credit.

Introductory Core Requirement

(1 course; 4.5 quarter units)
ITL 600 Becoming a Teacher
All students must complete ITL 600 and complete the credential packet prior to beginning ITL 604.

Foundation Core Courses

(3 courses; 13.5 quarter units)
ITL 604 Learners and Learning I
ITL 606 Learners and Learning II
Prerequisite: ITL 604
ITL 608 Design and Process of Teaching
Prerequisite: ITL 606

All Foundation Courses meet CTC requirements for Intern Pre-Service coursework.

Multiple Subject Methods Courses

(6 courses; 27 quarter units)
PRIOR to beginning any of the Multiple Subject Credential Area Method courses below, the candidate must successfully complete all Core courses, pass CBEST, pass CSET, and meet any other related program requirements.

ITL 510 Language-Literacy: Foundations
ITL 512 Language/Literacy: Strategies
Prerequisite: ITL 510
ITL 514 Language-Literacy: Assessment
Prerequisite: ITL 512
ITL 516 Mathematics Integrative Design
Prerequisite: ITL 514

ITL 518 Science Integrative Design
Prerequisite: ITL 516
ITL 530 * Optimized Learning Community

* Upon issuance of the University Intern Credential, this course must be taken first.

Single Subject Methods Courses

(5 courses; 22.5 quarter units)
PRIOR to beginning any of the Single Subject Credential Area Methods courses below, the candidate must successfully complete all Core courses, pass CBEST, pass CSET, and meet any other related program requirements.

ITL 520 Academic Language & Literacy
ITL 522 Content Area Literacy
Prerequisite: ITL 520
ITL 526 SS Integrated Design I
Prerequisite: ITL 522
ITL 528 SS Integrated Design II
Prerequisite: ITL 526
ITL 530 * Optimized Learning Community

** Upon issuance of the University Intern Credential, this course must be taken first.

Clinical Practice Pathways: Student Teaching or Internship

(**Student Teaching**—4 courses; 13.5 quarter units or
Internship—4-8 courses; 13.5–31.5 quarter units)
Candidates will complete the clinical practice experience through student teaching or the internship.

The clinical practice (K-12 classroom) experience courses (ITL 550A, ITL 550B, ITL 650A, ITL 650B, ITL 650C, ITL 650D, ITL 650E, ITL 650F) do NOT grant graduate credit.

Student Teaching

(4 courses; 13.5 quarter units)
PRIOR to beginning any of the student teaching courses below, the candidate must successfully complete all Core courses, pass CBEST, pass CSET, complete all Multiple or Single Subject Credential Area Method courses, and submit a successful student teaching application.

The student teaching application process must be completed at least three-months prior to the candidate's intended start of student teaching. Student teaching placements in K-12 classrooms are made through a collaborative partnership of the university and respective school district. The student teaching placements must align to the CSET credential sought. Student teaching is unpaid and composed of at least 600 instructional hours (16-18 weeks of full-time student teaching) in designated K-12 classrooms.

Note: The two seminar courses, below, ITL 551A and ITL 551B, are 2.25 quarter units, each and will be taken concurrently with ITL 550A and ITL 550B, respectively.

ITL 550A * Student Teaching A
Corequisite: ITL 551A

ITL 551A	Student Teacher Seminar A (2.25 quarter units) <i>Corequisite: ITL 550A</i>
ITL 550B *	Student Teaching B <i>Prerequisite: ITL 550A, Corequisite: ITL 551B</i>
ITL 551B	Student Teacher Seminar B (2.25 quarter units) <i>Corequisite: ITL 550B, Prerequisite: ITL 551A</i>

* Does NOT grant academic credit.

Internship

(4-8 courses; 13.5 – 31.5 quarter units)

PRIOR to beginning the intern courses below, the candidates must successfully complete all Core courses, pass CBEST, pass CSET, and meet all CTC requirements related to the University Intern Credential.

Placement in an internship occurs as a result of the candidate holding employment in an approved CA public school and in partnership with National University. Intern placements must align to the CSET credential, be in compliance with the Commission on Teacher Credentialing, and with National University's requirements. Interns need to be in good standing with the employer and National University for the duration of the active University Internship Teaching Credential.

The intern serves as the teacher of record in an approved K-12 classroom and is paid by the school or school district. The University Internship Teaching Credential is good for a maximum of two-years and requires the candidate to be employed in the district and enrolled in National University's intern teacher credential program. As long as the candidate holds the intern credential and is employed, they have up to two-years to earn a multiple or single subject credential. For a third year as an intern, the Commission must approve an extension of the intern credential and the candidate must obtain an approved CAS petition from National University documenting a medical emergency or other extreme circumstances necessitating an "exception to policy" and consideration on a case by case basis. If the petition is granted, the intern will be required to complete one or both courses of the following courses during the third year: ITL 650E, ITL 650F, respectively.

ITL 650A *	CP Internship A: Year 1 <i>Corequisite: ITL 651A</i>
ITL 651A	CP Intern Seminar A (2.25 quarter units) <i>Corequisite: ITL 650A</i>
ITL 650B *	CP Internship B: Year 1 <i>Prerequisite: ITL 650A, Corequisite: ITL 651B</i>
ITL 651B	CP Intern Seminar B (2.25 quarter units) <i>Corequisite: ITL 650B, Prerequisite: ITL 651A</i>
ITL 650C *	CP Internship C: Year 2 <i>Prerequisite: ITL 650B</i>
ITL 650D *	CP Internship D: Year 2 <i>Prerequisite: ITL 650C</i>

ITL 650E *	CP Internship E: Year 3 <i>Prerequisite: ITL 650D, For those interns, who can document a medical emergency or other extreme circumstances, they will be required to submit an "exception to policy". Petitions will be considered on a case by case basis. If approved by the department chair, the intern will be required to complete ITL 650E; it is a four-month course requiring the intern to have supervision from university and district-employed representatives.</i>
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ITL 650F *	CP Internship F: Year 3 <i>Prerequisite: ITL 650E, Interns who have received approval for an "exception to policy", will be required to take ITL 650F will receive appropriate supervision from university and district-employed representatives</i>
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* Does NOT grant academic credit.

Students **must** also enroll in one of the following emphasis

Emphasis in Critical Thinking

This emphasis is intended for teacher candidates and practicing teachers. The emphasis introduces candidates to critical literacy, transformative pedagogy, and the means for student empowerment. Candidates select and study a topic of interest in education through the lens of critical thinking theory. Candidates reflect on and critically evaluate their syllabi, course materials, and teaching approaches. Candidates learn and apply strategies to empower students to reflect, read, and write critically.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Develop as critical thinkers.
- Engage in transformative pedagogy
- Empower their students as critical thinkers
- Create an action research study that applies critical thinking theory in their content area

Emphasis Requirements

(3 courses; 13.5 quarter units)

ITI 680	Self as a Critical Thinker <i>Prerequisite: ITL 600, ITL 604, ITL 606</i>
ITI 682	Critical Thinking - Classroom <i>Prerequisite: ITI 680</i>
ITI 684	Applied Critical Thinking <i>Prerequisite: ITI 680, ITI 682</i>

Emphasis in Inspired Teaching Practices

Candidates explore a blending of current educational research theory with effective classroom application. Student-centered curricular practices are created using engaging instructional strategies, applying successful classroom management techniques, and adopting appropriate assessment procedures. Candidates explore a wide variety of Information Communication Technologies (ICT) digital tools and resources to become more competent users of learning technologies in their own instructional practices.

An overarching Inquiry-Based Research Proposal will be developed and written over the three courses of this emphasis. Candidates identify a research question, complete a Review of Literature, and design the data collection strategies. An overview of the completed proposal will be presented in a digital format along with the written document.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Develop a standards-based, engaging content and assessment plan that includes strategies to help all students succeed.
- Evaluate a variety of instructional practices that facilitate the differentiation of instruction as applied to teaching, content development, classroom management and assessment.
- Create a personal inquiry document that demonstrates the mastery of Inspired Teaching Inquiry research skills supported by digital tools.
- Employ effective ICT (Information and Communication Technologies) in a multidisciplinary unit of study
- Design an Action Research proposal, including a research question connected to Inspired Teaching Practices.

Emphasis Requirements

(3 Courses, 13.5 units)

ITI 690	Inspired Teaching Inquiry <i>Prerequisite: ITL 600, ITL 604, ITL 606</i>
ITI 692	Inspired Student Learning <i>Prerequisite: ITI 690</i>
ITI 694	Inspired Learning Technology <i>Prerequisite: ITI 692</i>

Emphasis in English Language Learner Education

The Master of Education in Inspired Teaching and Learning Preliminary Multiple and Single Subject Teaching Credential with emphasis in English Language Learner Education is designed to improve the quality of education for English Language Learners in grades K-12 in California public schools. Candidates will gain experience, professional knowledge and skills when identifying, examining, implementing and evaluating sustained best practices for the education of English Language Learners in public school classrooms through content learning and course-embedded research practicum I, II & III.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Assess multiple theoretical frameworks and inclusion practices based on knowledge of Identity and Equity for the improvement of the education of K-12 English Language Learners.
- Design culturally responsive inter-disciplinary curricular unit(s) developed to support meaningful and sustained

academic achievement for English Language Learners (ELLs) with the use of multiple of measures.

- Synthesize the findings and implications from an English Language Learner based inquiry project designed to investigate evidence-based curricular and instructional improvements for ensuring meaningful academic achievement and social-emotional thriving of K-12 English Language Learners (ELLs).

Emphasis Requirements

(3 courses; 13.5 quarter units)

ITI 660	Identity, Inclusion and Equity
ITI 662	Linguistics- Academic Language <i>Prerequisite: ITI 660</i>
ITI 664	EL Achievement in Content Area <i>Prerequisite: ITI 662</i>

Emphasis in Social Emotional Learning

The Social Emotional Learning (SEL) emphasis resides in the Master of Education degree program. This emphasis provides current or future teachers with a foundation of social emotional learning theories and evidence-based practices to support the development of social emotional learning skills within classrooms. Candidates will have the opportunity to self-reflect on their own knowledge and skills and examine evidence-based strategies and interventions to support their role of a classroom teacher. Candidates will compose a full research proposal in the area of SEL to include research questions, literature review, methodology and reflection to support their work in making positive changes in their everyday practice.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Evaluate social emotional learning theories and evidence-based practices.
- Self-reflect about own knowledge and skills of evidence-based practices.
- Create a full research proposal in the area of SEL to include research questions, literature review, methodology and reflection.

Emphasis Requirements

(3 courses; 13.5 quarter units)

ITI 670	Introduction to SEL <i>Prerequisite: ITL 600, ITL 604, ITL 606</i>
ITI 672	SEL in Action <i>Prerequisite: ITI 670</i>
ITI 674	Research in SEL <i>Prerequisite: ITI 672</i>

SANFORD COLLEGE OF EDUCATION CREDENTIAL ONLY PROGRAMS

INSPIRED TEACHING AND LEARNING PRELIMINARY MULTIPLE SUBJECT TEACHING CREDENTIAL AND INTERNSHIP OPTION (CALIFORNIA)

Academic Program Director: Clara Amador-Lankster;
(310) 662-2139; camadorl@nu.edu

Inspired Teaching and Learning Preliminary Multiple Subject Teaching Credential and internship option is designed for candidates who are dedicated to inspiring all K-12 learners by ensuring for them: social-emotional thriving, meaningful academic achievement, and equitable and inclusive learning communities. The program and courses meet the California Commission on Teacher Credentialing (CTC) requirements for a Preliminary Multiple Subject teaching credential. Candidates are required to successfully complete foundation courses, multiple subject credential method courses, and a clinical practice path (student teaching or internship).

***Please Note:** To avoid interruptions to program progress and/or financial aid arrangements, students need to satisfy/pass the Basic Skills Requirement (e.g., CBEST) and Subject Matter Competency Requirement (e.g., CSET) PRIOR to starting the multiple subject credential area method courses.

Internship Option: The Commission on Teacher Credentialing (CTC) mandates all approved intern programs provide a minimum of 120 hours of pre-service coursework prior to becoming Intern Eligible. Candidates can meet the 120-hours requirement through one of two pathways. Complete the foundation sequence of ITL 600, ITL 604, ITL 606, ITL 608; pass CBEST; pass CSET; and have a school or district letter verifying a teaching position job offer as the 'teacher of record'.

For additional information on credential requirements, please see the Sanford College of Education Credential Information section of the catalog.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Integrate the knowledge needed for engaging/supporting all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for creating/maintaining effective learning environments for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for making subject matter comprehensible for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for designing/planning learning experiences for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for assessing all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for being a legal, ethical, and professional educator for all K-12 learners, including those with diverse learning needs.
- Reflect critically about professional beliefs and practices in the application of teaching and learning principles

needed to inspire K-12 learners as well as being an inspired teacher.

Degree Requirements:

To receive a California Preliminary Multiple Subjects Teaching Credential, candidates must complete at least 49.5 graduate units, 31.5 of which must be completed in residency to meet the residency requirement.

A number of requirements must be completed prior to taking ITL 600, which include the successful completion of the Credential Packet. The Packet includes a number of requirements, such as cleared background clearance and Negative TB test. To better understand the requirements, please refer to the Sanford College of Education's Credential Information section located in this catalog.

Additionally, the CBEST and CSET must be passed prior to beginning the Multiple Subject Credential Methods courses.

Each credential course (ITL) includes a required 4-hour field experience in one or more K-6 classrooms, representing a diverse K-12 student population, with the exception of the clinical practice courses.

Candidates choosing the Internship option with the Preliminary Multiple Subject Teaching Credential will need to meet the Internship Eligibility requirements as outlined in the Sanford College of Education Credential information section of the catalog.

Internship Option: The Commission on Teacher Credentialing (CTC) mandates all approved intern programs provide a minimum of 120 hours of pre-service coursework prior to becoming Intern Eligible. Candidates can meet the 120-hours requirement through one of two pathways. Complete the foundation sequence of ITL 600, ITL 604, ITL 606, ITL 608; pass CBEST; pass CSET; and have a school or district letter verifying a teaching position job offer as the 'teacher of record'.

The CA Education Code stipulates a minimum of 144 hours of support and supervision must be provided to the candidate each year of intern employment and documented. Interns without a valid English Learner (EL) Authorization from CTC will be required to receive an additional 45 hours of EL preparation support each year of intern employment (Total 189 hours).

This Internship Option requires the successful completion of the internship clinical practice experience (minimum 1 year and maximum of 2 years). The CA Commission on Teacher Credentialing (CTC) requires an intern-candidate holding a valid University Internship Credential to be continuously enrolled in clinical practice support and supervision. During the first-year, the intern will take ITL 650A and ITL 651A, ITL 660B and ITL 651B. If, by the end of the first year, the intern's employment continues and the program requirements have

not been completely met, then, National University is required to provide additional ongoing support and supervision to the intern. Additionally, the intern will need be enrolled in ITL 650C and, if needed, ITL 650D. For the intern to continue for a third year, the Commission must approve an extension of the intern credential and National University must approve the intern’s petition for an exception to policy. With the petition, the intern is required to document a medical emergency or other extreme circumstances necessitating an ‘exception to policy’. The petition’s approval is granted on a case by case basis and would require the intern to complete one or both courses of the following courses: ITL 650E, ITL 650F, respectively.

Interns in the Early Completion Option (ECO) route are still required to receive the general support and supervision provided to all interns while they are serving on an Intern credential.

Credential Requirements

(14 courses; 49.5 quarter units)
Includes all foundation core, credential area methods, and those clinical practice courses granting graduate credit.

Introductory Core Course

(1 course; 4.5 quarter units)
ITL 600 Becoming a Teacher

All students must complete ITL 600, and credential packet prior to beginning ITL 604.

Foundation Core Requirements

(3 courses; 13.5 quarter units)
ITL 604 Learners and Learning I
ITL 606 Learners and Learning II
 Prerequisite: ITL 604
ITL 608 Design and Process of Teaching
 Prerequisite: ITL 606

All Foundation Courses meet CTC requirements for Intern Pre-Service coursework.

Multiple Subject Methods Courses

(6 courses; 27 quarter units)

ITL 510 Language-Literacy: Foundations
ITL 512 Language/Literacy: Strategies
 Prerequisite: ITL 510
ITL 514 Language-Literacy: Assessment
 Prerequisite: ITL 512
ITL 516 Mathematics Integrative Design
 Prerequisite: ITL 514
ITL 518 Science Integrative Design
 Prerequisite: ITL 516
ITL 530 * Optimized Learning Community

* * Upon issuance of the University Intern Credential, this course must be taken first.

Clinical Practice Pathways: Student Teaching or Internship
(Student Teaching—4 courses; 13.5 quarter units or Internship—4 - 8 courses; 13.5 – 31.5 quarter units)
Candidates will complete the clinical practice experience through student teaching or the internship.

The clinical practice (K-12 classroom) experience courses (ITL 550A, ITL 550B, ITL 650A, ITL 650B, ITL 650C, ITL 650D, ITL 650E, ITL 650F) do NOT grant graduate credit.

Student Teaching

(4 courses; 13.5 quarter units)
Student Teaching will be arranged by the university for candidates who have completed all program coursework and met all program/state requirements. Student Teaching is unpaid and composed of at least 600 instructional hours in designated K-12 classrooms.

ITL 550A *	Student Teaching A <i>Corequisite: ITL 551A</i>
ITL 551A	Student Teacher Seminar A (2.25 quarter units) <i>Corequisite: ITL 550A</i>
ITL 550B *	Student Teaching B <i>Prerequisite: ITL 550A, Corequisite: ITL 551B</i>
ITL 551B	Student Teacher Seminar B (2.25 quarter units) <i>Corequisite: ITL 550B, Prerequisite: ITL 551A</i>

* Does NOT grant graduate credit

Internship

(4–8 courses; 13.5–31.5 quarter units)

Placement in an internship occurs as a result of the candidate holding employment in an approved CA public school and in partnership with National University. Intern placements must align to the CSET credential, be in compliance with the Commission on Teacher Credentialing, and meet National University’s requirements. Interns need to be in good standing as a teacher of record with an approved school employer and enrolled in National University for the duration of the active University Internship Teaching Credential.

The intern serves as the teacher of record in an approved K-12 classroom and is paid by the school or school district. The University Internship Teaching Credential is good for a maximum of two-years and requires the candidate to be employed in the district and enrolled in National University’s intern teacher credential program. As long as the candidate holds the intern credential and is employed, they have up to two-years to earn multiple subject credential. For a third year as an intern, the Commission must approve an extension of the intern credential and the candidate must obtain an approved petition from National University by documenting a medical emergency or other extreme circumstances necessitating an ‘exception to policy’. Consideration on a case by case basis. If the petition is granted, the intern will be

required to complete one or both courses of the following courses during the third year: ITL 650E, ITL 650F, respectively.

ITL 650A *	CP Internship A: Year 1 <i>Corequisite: ITL 651A</i>
ITL 651A CP	Intern Seminar A (2.25 quarter units) <i>Corequisite: ITL 650A</i>
ITL 650B *	CP Internship B: Year 1 <i>Prerequisite: ITL 650A, Corequisite: ITL 651B</i>
ITL 651B CP	Intern Seminar B (2.25 quarter units) <i>Corequisite: ITL 650B, Prerequisite: ITL 651A</i>
ITL 650C *	CP Internship C: Year 2 <i>Prerequisite: ITL 650B</i>
ITL 650D *	CP Internship D: Year 2 <i>Prerequisite: ITL 650C</i>
ITL 650E *	CP Internship E: Year 3 <i>Prerequisite: ITL 650D, For those interns, who can document a medical emergency or other extreme circumstances, they will be required to submit an "exception to policy". Petitions will be considered on a case by case basis. If approved by the department chair, the intern will be required to complete ITL 650E; it is a four-month course requiring the intern to have supervision from university and district-employed representatives.</i>
ITL 650F *	CP Internship F: Year 3 <i>Prerequisite: ITL 650E, Interns who have received approval for an "exception to policy", will be required to take ITL 650F will receive appropriate supervision from university and district-employed representatives</i>

* Does NOT grant academic credit.

INSPIRED TEACHING AND LEARNING PRELIMINARY SINGLE SUBJECT TEACHING CREDENTIAL AND INTERNSHIP OPTION (CALIFORNIA)

*Academic Program Director: Clara Amador-Lankster;
(310) 662-2139; camadorl@nu.edu*

Inspired Teaching and Learning with a Single Subject Teaching Credential and internship option is designed for candidates who are dedicated to inspiring all K-12 learners by ensuring for them: social-emotional thriving, meaningful academic achievement, and equitable and inclusive learning communities. The program and courses meet the California Commission on Teacher Credentialing (CTC) requirements for a Preliminary Single Subjects teaching credential. Candidates are required to successfully complete foundation courses, single subject credential method courses, and a clinical practice path (student teaching or internship).

***Please Note:** To avoid interruptions to program progress and/or financial aid arrangements, students need to satisfy/pass the Basic Skills Requirement (e.g., CBEST) and Subject Matter Competency Requirement (e.g., CSET) PRIOR to starting the single subject credential area method courses.

Internship Option: The Commission on Teacher Credentialing (CTC) mandates all approved intern programs provide a

minimum of 120 hours of pre-service coursework prior to becoming Intern Eligible. Candidates can meet the 120-hours requirement through one of two pathways. Complete the foundation sequence of ITL 600, ITL 604, ITL 606, ITL 608; pass CBEST; pass CSET; and have a school or district letter verifying a teaching position job offer as the 'teacher of record'.

For additional information on credential requirements, please see the Sanford College of Education Credential Information section of the catalog.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Integrate the knowledge needed for engaging/supporting all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for creating/maintaining effective learning environments for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for making subject matter comprehensible for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for designing/planning learning experiences for all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for assessing all K-12 learners, including those with diverse learning needs.
- Integrate the knowledge needed for being a legal, ethical, and professional educator for all K-12 learners, including those with diverse learning needs.
- Reflect critically about professional beliefs and practices in the application of teaching and learning principles needed to inspire K-12 learners as well as being an inspired teacher.

Degree Requirements

To receive a California Preliminary Single Subject Teaching Credential and Intern Option, candidates must complete at least 45 quarter units of graduate credit, 31.5 of which must be taken in residence at National University. The degree consists of those courses granting degree units in the: Core, Single Subject Credential Methods, Clinical Practice (student teaching or internship). Further information on graduate admission and evaluation can be found in the Academic Information for Graduate Degrees section of the catalog.

A number of requirements must be completed prior to taking ITL 600, including successful completion of the Credential Packet. The Packet includes a number of requirements, such as cleared background clearance and Negative TB test. To better understand the requirements, please refer to the Sanford College of Education's Credential Information section located in this catalog.

Additionally, the CBEST and CSET must be passed prior to beginning the Single Subject Credential Methods courses.

Each credential course (ITL) includes a required 4-hour field experience in one or more classrooms (grades 7-12) representing diverse student populations. The field experience requirement is associated with the clinical practice courses.

Candidates choosing the Internship option with the Preliminary Single Subject Teaching Credential will need to meet the Internship Eligibility requirements as outlined in the Sanford College of Education Credential information section of the catalog.

Once the candidate is Intern Eligible, the Commission on Teacher Credentialing (CTC) mandates all approved internship programs require a minimum of 120 hours of pre-service coursework (ITL 600, ITL 604, ITL 606, ITL 608) prior to becoming eligible for the Internship Option.

Internship Option: The Commission on Teacher Credentialing (CTC) mandates all approved intern programs provide a minimum of 120 hours of pre-service coursework prior to becoming Intern Eligible. Candidates can meet the 120-hours requirement through one of two pathways. Complete the foundation sequence of ITL 600, ITL 604, ITL 606, ITL 608; pass CBEST; pass CSET; and have a school or district letter verifying a teaching position job offer as the 'teacher of record'.

The CA Education Code stipulates a minimum of 144 hours of support and supervision must be provided to the candidate each year of intern employment and documented. Interns without a valid English Learner (EL) Authorization from CTC will be required to receive an additional 45 hours of EL preparation support each year of intern employment (Total 189 hours).

The Internship Option is designed to be completed within two years and the university may not extend intern documents beyond that time. The CA Commission on Teacher Credentialing (CTC) requires an intern-candidate holding a valid University Internship Credential to be continuously enrolled in clinical practice support and supervision. During the first-year, the intern will take ITL 650A and ITL 651A, ITL 660B and ITL 651B. By the start of the second year, if the intern's employment continues and the program's requirements have not been met, then, the Commission requires National University to provide the intern with ongoing, K-12 classroom-based support and supervision. Therefore, the intern will need be enrolled in ITL 650C and, if needed, ITL 650D. For the intern to continue for a third year, the Commission must approve an extension of the University Intern Credential and National University must approve the intern's petition for an exception to policy. For the petition, the intern is required to document a medical emergency or other extreme circumstances necessitating an 'exception to policy'. The petition's approval is granted on a case by case basis and would require the intern to complete one or both of the following courses: ITL 650E, ITL 650F, respectively.

Interns in the Early Completion Option (ECO) route are still required to receive the general support and supervision provided to all interns while they are serving on an Intern credential.

Credential Requirements

(13 courses; 45 quarter units)

Includes all foundation core, credential area methods, and those clinical practice courses granting graduate credit.

Introductory Core Requirements

(1 course; 4.5 quarter units)

Students must complete ITL 600, and credential packet prior to beginning ITL 604.

ITL 600 Becoming a Teacher

Foundation Core Requirements

(3 courses; 13.5 quarter units)

ITL 604 Learners and Learning I

ITL 606 Learners and Learning II

Prerequisite: ITL 604

ITL 608 Design and Process of Teaching

Prerequisite: ITL 606

All Foundation Courses meet CTC requirements for Intern Pre-Service coursework.

Single Subject Credential Area Methods Courses

(5 courses; 22.5 quarter units)

PRIOR to beginning any of the Single Subject Credential Area Methods courses below, the candidate must successfully complete all Core courses, pass CBEST, pass CSET, and meet any other related program requirements.

ITL 520 Academic Language & Literacy

ITL 522 Content Area Literacy

Prerequisite: ITL 520

ITL 526 SS Integrated Design I

Prerequisite: ITL 522

ITL 528 SS Integrated Design II

Prerequisite: ITL 526

ITL 530 * Optimized Learning Community

* *Upon issuance of the University Intern Credential, this course must be taken first.
and

Clinical Practice Pathways: Student Teaching or Internship

(Student Teaching—4 courses; 13.5 quarter units or Internship—4-8 courses; 13.5 – 31.5 quarter units)

Candidates will complete the clinical practice experience through student teaching or the internship.

The following clinical practice courses do NOT grant graduate credit (ITL 550A, ITL 550B, ITL 650A, ITL 650B, ITL 650C, ITL 650D, ITL 650E, ITL 650F).

Student Teaching

(4 courses; 13.5 quarter units)

PRIOR to beginning any of the student teaching courses below, the candidate must successfully complete all Core courses, pass CBEST, pass CSET, complete all Single Subject Credential Area Method courses, and submit a successful student teaching application.

The student teaching application process must be completed at least three-months prior to the candidate's intended start of student teaching. Student teaching placements in K-12 classrooms are made through a collaborative partnership of the university and respective school district. The student teaching placements must align to the CSET credential sought. Student teaching is unpaid and composed of at least 600 instructional hours (16-18 weeks of full-time student teaching) in designated K-12 classrooms.

Note: The two seminar courses, below, ITL 551A and ITL 551B, are 2.25 quarter units, each and will be taken concurrently with ITL 550A and ITL 550B, respectively.

ITL 550A *	Student Teaching A <i>Corequisite: ITL 551A</i>
ITL 551A	Student Teacher Seminar A (2.25 quarter units) <i>Corequisite: ITL 550A</i>
ITL 550B *	Student Teaching B <i>Prerequisite: ITL 550A, Corequisite: ITL 551B</i>
ITL 551B	Student Teacher Seminar B (2.25 quarter units) <i>Corequisite: ITL 550B, Prerequisite: ITL 551A</i>

* Does NOT grant academic credit.

Internship

(4–8 courses; 13.5–31.5 quarter units)

PRIOR to beginning the intern courses below, the candidates must successfully complete all Core courses, pass CBEST, pass CSET, and meet all CTC requirements related to the University Intern Credential.

Placement in an internship occurs as a result of the candidate holding employment in an approved CA public school and in partnership with National University. Intern placements must align to the CSET credential, be in compliance with the Commission on Teacher Credentialing, and with National University's requirements. Interns need to be in good standing with the employer and National University for the duration of the active University Internship Teaching Credential.

The intern serves as the teacher of record in an approved K-12 classroom and is paid by the school or school district. The University Internship Teaching Credential is good for a maximum of two-years and requires the candidate to be employed in the district and enrolled in National University's intern teacher credential program. As long as the candidate holds the intern credential and is employed, they have up to two-years to earn the single subject credential. For a third

year as an intern, the Commission must approve an extension of the intern credential and the candidate must obtain an approved petition by National University by documenting a medical emergency or other extreme circumstances necessitating an 'exception to policy'. Consideration is on a case by case basis. If the petition is granted, the intern will be required to complete one or both courses of the following courses during the third year: ITL 650E, ITL 650F, respectively.

ITL 650A *	CP Internship A: Year 1 <i>Corequisite: ITL 651A</i>
ITL 651A CP	Intern Seminar A (2.25 quarter units) <i>Corequisite: ITL 650A</i>
ITL 650B *	CP Internship B: Year 1 <i>Prerequisite: ITL 650A, Corequisite: ITL 651B</i>
ITL 651B CP	Intern Seminar B (2.25 quarter units) <i>Corequisite: ITL 650B, Prerequisite: ITL 651A</i>
ITL 650C *	CP Internship C: Year 2 <i>Prerequisite: ITL 650B</i>
ITL 650D *	CP Internship D: Year 2 <i>Prerequisite: ITL 650C</i>
ITL 650E *	CP Internship E: Year 3 <i>Prerequisite: ITL 650D, For those interns, who can document a medical emergency or other extreme circumstances, they will be required to submit an "exception to policy". Petitions will be considered on a case by case basis. If approved by the department chair, the intern will be required to complete ITL 650E; it is a four-month course requiring the intern to have supervision from university and district-employed representatives.</i>
ITL 650F *	CP Internship F: Year 3 <i>Prerequisite: ITL 650E, Interns who have received approval for an "exception to policy", will be required to take ITL 650F will receive appropriate supervision from university and district-employed representatives</i>

* Does NOT grant academic credit.

ACADEMIC COURSE INFORMATION

COURSE TERMINATIONS

ACC 433A Managerial Accounting I
ANH 601 Health Management Analytics
ANH 620 Health Analytics Internship
ANH 625 Health Analytics Capstone
BAN 660 Business Analytics Capstone
COH 420 Health of Vulnerable Groups
CYB 214 Quant Tools for Cybersec Pro
EXC 639 Childhood and Adolescence
HED 308 Mental and Emotional Health
HED 351 Coordinated School Health
HED 414 Violence & Bullying Prevention
IHC 600 Intro to Complementary Healing
IHC 610 Self as Coach
IHC 615 Fundamentals of Health Coaching
IHC 620 The Coaching Relationship

IHC 630 Advanced Health Coaching Seminar
 IHC 632 Practicum in Health Coaching
 IHC 635 Multiple Intelligences in Heal
 IHC 640 Independent Study
 JJS 601 Field Experience & Orientation
 JJS 602 Creating Alliances in Alt. Ed
 JJS 603 Role of Profess in Alt Ed
 JJS 604 Mgmt. of Behaviors
 JJS 605 Prof Ethics in Juv Justice Sys
 JJS 606 Delinquency & Gang Impact
 JJS 625 Advanced Research Methods
 JJS 690 Capstone Project
 MKT 447 Marketing for Entrepreneurs
 MKT 448 Not-For-Profit Marketing
 MKT 449 Advanced Market Research
 MKT 633 Sales Management
 MKT 635 Ad Management & Marketing
 PSY 616 Counseling Theories
 PSY 617A Family Systems
 PSY 617B Advanced Family Systems
 PSY 623 Diagnosis and Assessment
 PSY 625 Counseling Techniques and Prac
 PSY 627A Legal and Ethical Issues
 PSY 629A Adulthood and Aging
 PSY 635 Childhood and Adolescence
 PSY 642 Relational Violence
 PSY 651A Counseling Practicum I
 PSY 651B Counseling Practicum II
 PSY 651C Counseling Practicum III
 PSY 651D Counseling Practicum IV
 PSY 654 Career & Lifestyle Development
 SCM 695C Supply Chain Risk Capstone

COURSE DESCRIPTIONS

ANA – Analytics

ANA 600 Fundamentals of Analytics

Introduction to statistical modelling and data analysis using R programming to explore data variation, model the data, and evaluate the models. Analysis and evaluation of different types of regression models and error analysis methods.

ANA 605 Analytic Models & Data Systems

Prerequisite: ANA 600

Forms of data, gap analysis, model building, and interpretation will form the foundation for students to ethically apply data analytics to facilitate modern knowledge discovery techniques.

ANA 610 Data Management for Analytics

Application of the data management process for analytics including acquiring and auditing data, assembling data into a modeling sample, performing basic data integrity checks, cleansing data, feature engineering and data visualization.

ANA 615 Data Mining Techniques

Prerequisite: ANA 610

Application of data mining methods and predictive modeling for exploration and knowledge discovery. Design of objectives, data selection and preparation, analytic method selection such as classification and decision trees, and predictive modeling will be used for a variety of case studies and practical industry applications.

ANA 699A Analytic Capstone Project I

Prerequisite: All core and specialization courses in an analytics program with a minimum GPA of 3.0 or approval of Lead Faculty.

Master's level research in analytic project design, problem framing, hypothesis generation, and literature review. Team building, team collaboration, ethics, and conflict resolution are implemented. Strategic aspects such as mission and vision statements and managing an evolving analytic landscape are also incorporated into the analytic project scope.

ANA 699B Analytic Capstone Project II

Prerequisite: ANA 699A

Master's level research in analytic project implementation, technical writing, and project presentation. Team building, collaboration, ethics, and conflict resolution are implemented. Strategic and technical aspects are implemented and presented to project advisors and stakeholders.

ANA 699C Analytics Capstone Project III

Prerequisite: ANA 699B

Completion of master's level research in analytic project implementation, technical writing, and project presentation. Strategic and technical aspects of data analysis and visualization are implemented and presented to project advisors and stakeholders in a written thesis.

ANH – Health Analytics

ANH 607 Health Outcomes Research

Application of health data analytics to guide decisions about the health of populations and individuals. Population and individual level data integration and analysis will be conducted to provide evidenced-based solutions in clinical trials and assessment of recovery time, patient stays, risk of complications, morbidity, and mortality.

BAN – Business Analytics

BAN 640 Performance MGT & SCM Process

Performance Management (PM) and Supply Chain Management (SCM) require metrics and indicators to measure value, weaknesses and opportunities through business intelligence. Using data to set objectives and measure the internal and external performances through analytics has been a proven method to business success. Business analytics provide a proactive approach to identify and solve problems before it takes place. Data improvement, data quality assessment, data cleansing and normalization, methods and process improvements will be discussed.

BAN 645 Prediction in Marketing

New technologies have opened new arenas in prediction and marketing. Subjects of predictive analytics topics and its role in enterprise marketing will be discussed. The course applies predictive analytic tools to derive the organization's strategic direction. Market and product analysis will be used to illustrate the development process. Results will be drawn from actual predictive analytics applications and interpreted in the context of business impact.

BAN 650 Probabilistic Finance Models

Financial world faces uncertainty that affects the outcome of sound investments. Leaders are utilizing probabilistic analytic models that alleviate ambiguity on making decision for profitable returns. Theories and practical tools focusing on model building; constructing, processing, and presenting probabilistic information will be discussed. Utilization of analytical software to solve problems on axioms of probability, conditioning and probability trees, random variables and distributions expectation.

BAN 655 Analytical Security & Ethics

Every step of online transactions should be considered with security in mind. Accessing the organizations' data requires operators to apply the proper security and privacy while the data is stored, transmitted, accessed and when it is worked on. Work with confidential data involves strong ethical practices to be aware of security breaches and how to mitigate threats.

CEE – Computer and Electrical Engineering

CEE 430 Digital Signal Processing

Prerequisite: CEE 324

Describes all the necessary tools and techniques required to understand and design digital signal processing systems. Topics include: transformations of discrete time signals, the fast Fourier transform, and the z-transform. Advanced topics include: A/D and D/A converters and digital signal filtering.

CEE 440 VLSI Design

Prerequisite: CEE 420

VLSI design introduces students to fabrication and layout techniques necessary to design large scale systems. Specific topics include: CMOS logic, MOSFET theory, layout design rules including all the factors required for an effective circuit design. Advanced topics include: capacitance requirements, clocking, and power consumption, circuit simulation and performance estimation.

CEN – Construction Engineering

CEN 325 Soil Mechanics and Foundation

Prerequisite: CEN 323

An introduction to soil mechanics and foundation engineering. The course teaches the students how to solve certain fundamental problems related to consolidation, shear strength, and design of shallow and deep foundations; and familiarizes students with relevant terms and soil tests so that

they can work effectively with geotechnical engineering specialists. The course features soil basics, including their derivation, identification and classification. The principles of water flow in soils, settlement and heave, and shear strength of soils will be discussed. Consolidation problems, factors of safety for foundations, and foundation settlement prediction will also be covered.

CEN 410 Constr Materials and Methods

Prerequisite: MTH 215

An overview of the basic materials and methods utilized in construction projects. Wood, steel, masonry, glass, and concrete and other material are introduced along with their associated construction systems in foundations, framing, cladding, windows, doors, finishes and roofing.

CEN 413 Plans and Specifications

Prerequisite: EGR 219

Drawing and interpretation of plans, sections, details, symbols, notes and details in architectural, construction and shop drawings. Coordination and reference between drawings. Specification creation incorporating material properties, construction techniques and legal factors. Industry standards from AIA and CSI are presented.

CEN 419 Est., Scheduling and Control

Prerequisite: CEN 410

An introduction to the fundamentals of construction management, estimating, scheduling and control. Quantity takeoff estimations for material, time, equipment and overhead are presented. Activity durations, scheduling and project updating for control are covered.

CEN 420 Est., Scheduling & Control II

Prerequisite: CEN 419

An advanced course built on the fundamentals of construction management, estimating, scheduling and control introduced in CEN 419. Topics concerning quantity takeoff estimations for material, time, equipment, overhead, critical path, and precedence networks for activity durations, scheduling, and project updating for control are presented.

CEN 421 Constr, Acct, Finance and Law

Prerequisite: ACC 201

Application of business accounting and financial principles to the construction industry. Construction accounting systems, depreciation and financial analysis are introduced. Labor, overhead, and profit management are presented. Cash flow, time value of money, and legal aspects specific to construction industry contracts are introduced.

CEN 422 Field Inspection and Safety

Prerequisite: CEN 410

Integration of safety and productivity into daily field operations through inspection and accountability. Examines accident costs and contributing factors and techniques for risk minimization. Presents the relationship between safety and quality and techniques for site, structure, general and

mechanical and electrical system inspections.

CEN 425 Design & Const Process Integra

An introduction to the detailed processes of construction management and the relevant tools, processes and techniques that are involved. Students will be developing skills and knowledge to integrate and manage the overall construction process including the project proposal and design, cost estimate, contract document drawings and specifications, construction schedule, and project presentation.

CEN 480 Sustainable Construction

An introduction to the basic principles of sustainability as it applies to construction. Sustainability encompasses the 3Es of economics, environment and equity. Sustainable construction is examined in all stages of a building life-cycle from design to commissioning and beyond. This course provides both broad knowledge of sustainable construction techniques and uses in-depth design tools for integrating sustainable principles into modern construction management processes.

COH – Community Health

COH 603 Public Health Biology

Biological foundations of public health issues including infectious and chronic diseases. Reproduction and development of disease pathogens and transmission, immune responses and constitution of the host. Anatomical, physiological and cellular foundations for understanding chronic diseases. Focuses on methods for the control and prevention of disease.

COH 604 Theories of Health Behavior

The theoretical basis of individual health behavior. Application of cognitive, psychosocial and environmental theories of health behavior and theories of self-directed and professionally facilitated health behavior change. Emphasis on Behavior Modification, Health Belief Model, Theory of Planned Behavior, Social Cognitive Theory, Stress and Coping, Social Support, and Transtheoretical Model.

COH 606 Epidemiology

Prerequisite: COH 602 or ANA 630

The study of determinants and distribution of disease and disability in human populations. Empirical analysis of population data related to morbidity and mortality. Investigation of disease outbreaks, risk factors, health outcomes and causal relationships. Critical evaluation of public health literature and study design.

COH 607 Public Health Program Develop

Recommended Preparation: COH 604

Development of community-wide interventions to promote health and prevent disease. Systematic design by application of the principles of epidemiology, health behavior and Evidence-Based Public Health. Includes Community-Based

Participatory Research and investigation of ethical issues in conducting community-based public health programs.

COH 608 Public Health & the Enviro

Analysis of the health impact of home, workplace, community and global environments. Examines scientific understanding of causes and control of the major environmental health problems. Includes environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination; solid hazardous waste; susceptible populations; biomarkers; and emerging global environmental problems.

COH 609 PH Program Evaluation

Fundamentals of evaluation methods applied to public health interventions. Effective use of measurement tools to evaluate achievement of program goals and objectives. Includes analysis of validity and reliability of measurement instruments. Emphasis on reach, effectiveness, acceptance, implementation and maintenance of community programs. Includes fundamentals of proposal development.

COH 612 Health Policy and Advocacy

Explores the roles health advocates assume and how individuals working in public health settings might participate in advocacy strategies to affect policy. Focuses on frameworks for conceptualizing and promoting the right to health as well as strategies to give consumers more power in making decisions, defining issues, designing programs, and developing policies.

COH 613 Public Health Informatics

Prerequisite: COH 606

Application of information systems and technology to public health practice and research. Information technologies that support and improve the status of individual and community health. Development, deployment and maintenance of these systems. Effective use of data, information and knowledge tools to build manage, merge, retrieve and analyze public health data.

COH 617 PH Aspects of Violence

Prerequisite: COH 604

Intimate partner violence, child neglect and abuse, assault, homicide, war and terrorism are explored from a public health perspective. Focus on risk factor reduction and prevention of deaths, disability and human suffering.

COH 619 PH Aspects of Human Sexuality

Prerequisite: COH 604

Exploration of biological, psychological, behavioral and social aspects of health sexuality throughout the lifespan. Community level interventions to promote healthy sexuality.

COH 621 PH Aspects of Drug Addiction

Prerequisite: COH 602

Substance use disorders examined from the public health perspective. Prevention and treatment of substance use disorders to reduce deaths, disability and human suffering in

communities.

COH 623 Mental Health Services

US mental healthcare system overview, including terminology, components of healthcare delivery systems, financing, personnel, regulation, delivery and consumers. Focus on the availability, accessibility and acceptability of services to treat mental disorders in the US. Consideration of the effects of public policy on services for the treatment of mental disorders.

COH 627 Mental Health Populations

Special focus on individuals with severe and persistent mental conditions. Special consideration will be given to how the contemporary mental health system relates to and is experienced by disadvantaged individuals.

COH 693A Health Promotion Experience

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693A.

Demonstrate attainment of public health foundational competencies and health promotion specialization competencies through applied practice experience. Students may either work in a public health agency planning, implementing and/or evaluating a health promotion program or provide a portfolio that demonstrates alignment of volunteer work with the competencies. Grading is H/S/U only.

COH 693B Healthcare Admin Experience

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693B

Demonstrate attainment of public health foundational competencies and healthcare administration specialization through applied practice experience. Students may either work in a healthcare agency applying leadership and management skills or provide a portfolio that demonstrates alignment of volunteer work with the competencies. Grading is H/S/U only.

COH 693C Mental Health Experience

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 693C

Demonstrate attainment of public health foundational competencies and mental health specialization through applied practice experience. Students may either work in a mental health agency planning, implementing and/or evaluating a health promotion program or provide a portfolio that demonstrates alignment of volunteer work with the competencies. Grading is H/S/U only.

COH 694A Health Promotion Capstone

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694A

Two-month capstone project of original research related to the contemporary practice of public health promotion. Planning and completion of either a data-based analysis, an evaluation of a health promotion program or primary research related to public health promotion. Student project may require Institutional Review Board (IRB) approval. Student

produces a high-quality written product. Grading is S/H/U only.

COH 694B Healthcare Admin Capstone

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694B

Two-month capstone project related to the contemporary practice of public health administration. Completion of a training manual, policy statement, business plan, or a program or protocol evaluation report. Student project may require Institutional Review Board (IRB) approval. Student produces a high-quality written product. Grading is S/H/U only.

COH 694C Mental Health Capstone

Recommended: Prior completion of all core and specialization courses prior to enrolling in COH 694C

Two-month capstone project of original research related to the contemporary practice of mental health promotion. Planning and completion of either a data-based analysis, an evaluation of a mental health promotion program or primary research related to mental health promotion. Student project may require Institutional Review Board (IRB) approval. Student produces a high-quality written product. Grading is S/H/U only.

CYB – Cyber Security

CYB 211 Operating System Fundamentals

An introduction to the basic architecture and functions of an operating system. Computer hardware and software integration will be explored. Basic design and functionality of the Windows and Linux operating systems will be explored. In addition, core aspects of securing operating systems are covered.

CYB 212 Introduction to Networking

This course provides an introduction to basic network concepts including local area networks, wireless networks, and wide area networks. Network security concepts are also introduced. Students will explore secure router configurations.

EGR – Engineering

EGR 219 Intro to Graphics and Auto CAD

Prerequisite: MTH 215

Introduction to the latest version of Auto CAD software for two- and three-dimensional modeling, engineering graphics and technical drawings.

EGR 220 Engineering Mathematics

Prerequisite: MTH 215

An examination of the major mathematical tools for engineers and scientists.

EGR 316 Legal Aspects of Engineering

Course focuses on basic principles and new developments in the legal aspects of architectural, engineering and

construction processes. Coverage includes contractor licensing, professional design services, liability, intellectual property, and competitive bidding.

ENG – English

ENG 599 Intro to Grad English Studies

Introduces students to graduate level research practices and methodologies in English Studies. Students gain the grounding and skills required to research and write scholarly articles for peer reviewed journals in the field of English Studies.

ENG 666 Silent Film

A survey of films produced before the advent of recorded sound, this course focuses on the early national cinemas of France, Germany, the Soviet Union and the United States; attention is directed to concepts of visual narratology, montage and the conventions of acting, set design, lighting and movement.

ENG 667 American Film History

This course offers an in-depth study of the development of cinema in the United States that takes a broad overview of American film making. Topics include film genre and the relationship of film to art, politics, religion and society. Additionally, the course considers Hollywood's treatment of ethnic groups, women, and systems of class structure.

ENG 685 American Directors

This seminar in great American directors is a content-variable course that may be repeated for credit. Each iteration of this course is a comprehensive study of the artistic achievements of an American director. Students will engage in detailed interpretations and analyses of the techniques and concepts employed by a particular director, paying special attention to literary works as they relate to the filmmaking efforts of the director studied.

ENG 686 International Directors

This seminar in great international directors is a content-variable course that may be repeated for credit. Each iteration of this course is a comprehensive study of the canon of work of a specific director, excluding American directors. Students will engage in detailed interpretations and analyses of the techniques and concepts employed by a particular international director, paying special attention to literary works as they relate to the filmmaking efforts of the director studied.

ENG 697 Capstone Project in Rhetoric

Prerequisite: ENG 655, ENG 656, ENG 657, and ENG 668 or ENG 680A Pictures that Speak

Writing the Master's thesis or capstone project. Taken as the last course in the M.A. English with a Specialization in Rhetoric program. Exceptions may be made if within two courses of program completion, with approval of the lead faculty. Students study published models of rhetorical criticism. They

hone critical tools and apply them to a substantial, original project. Working closely with the capstone instructor and peers, students take this project from inception to final form: a work of professional-quality rhetorical criticism. Grading basis is S/U only. Course is eligible for In Progress (IP) grade.

FSC – Forensic Sciences

FSC 662 Supervised Research Project

Prerequisite: Satisfactory completion of all FSC courses, including area of specialization and/or elective courses.

Students select a viable topic in forensic science to research. Students meet with their instructor once a week for two months. Students will also be able to get guidance from the forensic lead faculty and other forensic staff throughout the entire process of the research. Grading is H, S, or U nly. Course is eligible for In Progress (IP) grade.

HCA – Healthcare Administration

HCA 622 Quality Appraisal & Evaluation

Prerequisite: HCA 600 and HCA 620

Theoretical and practical frameworks to facilitate the continuous improvement of quality in healthcare organizations. Includes data collection, data planning and evaluation. Introduces multiple approaches, including strategy and outcome measurement. Team development, analytical statistics, and process knowledge are central themes, along with culture transformation.

HCA 626 Healthcare Information Systems

Prerequisite: ANA 630

Effective data and information technology utilization to improve performance in healthcare organizations: including information systems, databases and analytical tools to structure, analyze and present information; legal and ethical issues affecting management of healthcare information.

HCA 628 HA Human Resources Management

Study of healthcare organization, training, motivation and direction of employees while maintaining high level productivity and morale. Includes selection, compensation, financial incentives, work standards, and leadership principles in healthcare organization.

ITI – Inspired Teacher Inquiry

ITI 670 Introduction to SEL

Prerequisite: ITL 600, ITL 604, ITL 606

Analyze the components of social emotional learning (SEL). Compare theoretical orientations regarding the development of SEL in school aged children. Assess own level of social emotional functioning to improve their ability to provide comprehensive and effective services to students. Evaluate evidence base for social emotional learning interventions within an MTSS framework.

ITI 680 Self as a Critical Thinker

Prerequisite: ITL 600, ITL 604, ITL 606

Focuses on critical thinking theory and pedagogy. Candidates reflect on and evaluate their own thinking about teaching, analyze critical thinking theory and research, select an action research topic within the area of critical thinking as applied to education, and create a research question within their topic of interest.

ITI 690 Inspired Teaching Inquiry

Prerequisite: ITL 600, ITL 604, ITL 606

Covers current theories and applications of evidence-based Inspired Teaching Practices in PK-12 education and includes developing a repertoire of technology-enhanced curricular tools. Candidates explore the process and application of action research resulting in the development of framing an instructional practices-based research topic and question through writing a literature review.

ITL – Inspired Teaching and Learning

ITL 604 Learners and Learning I

Examines psychological, socio-cultural, linguistic, and other factors influencing development, learning, and the full range of learners, including English Learners, standard-English learners, students with exceptionalities, and students with other needs. Considers a variety of data to identify appropriate strategies and community-based resources to support all learners and their families.

LOG – Logistics

LOG 410 Procurement and Inventory Mgt

Procurement of goods and their storage costs impacts a firm's competitive advantage. Prominence placed on reducing cost of purchasing while increasing product quality through co-creation of value. Evaluation of the costs, benefits and risks of holding inventory in the face of uncertain demand and product innovation. Implementation of lead-time reduction techniques to respond to changing demands and competition in a global, eCommerce market.

LOG 420 Omni-channel Distribution

Linking a business enterprise to its suppliers and customers, transportation is among the more critical and increasingly complex functions within a business enterprise, especially in the competitive globalized business environment. Evaluation of the modes of transportation and principles such as Just-in-Time delivery, Transportation Management Systems, Routing and Scheduling and Automatic Identification. Culminates in the operation of Distribution Centers in an Omni-channel distribution system to create world-class customer service from order to returns.

LOG 430 Global Logistics

Prerequisite: LOG 420

Development of strategies for the selection of international suppliers and then movement of goods across national boundaries. Discussion and analysis of modes of entry, global storage and transportation choices, international contracts and terms, and logistics risk management in order to add value through supply chain integration. Impact of international trade laws, culture, distance and time to make optimal logistics decisions. Emphasis on practical application of course concepts and systems thinking using case studies and mathematical models.

MCW – Creative Writing

MCW 659 Pedagogy of Creative Writing

Examines the practical and theoretical models of teaching and learning creative writing with particular attention to the developments of the last twenty years. An introduction to and overview of contemporary theories, practices, texts, professional organizations and web sites will be the primary focus of this course.

SCM – Supply Chain Management

SCM 400 Supply Chain Management

Prerequisite: MGT 451

Exploration of the evolving field of Supply Chain Management, which is increasingly important for competitiveness in the global market place. Evaluation of the eight key components of Supply Chain Management, focusing on how demand management is used to balance consumer needs with supply chain capabilities. Advanced forecasting techniques and rapid product development combine to create a responsive supply chain, providing competitive value to the consumer.

SCM 440 Cost and Risk in SCM

Analysis of pre-transaction, transaction and post-transaction elements that influence cost and risk toward achieving long-term customer satisfaction and profitability. Application of Blockchain technologies to reduce costs and verify supply pedigree. Other topics include Lean 6-Sigma, lead time reduction, risk management and resilience to create responsive and reliable supply chains. Alignment of these concepts between supply chain partners extends these traditional topics beyond the firm.

SCM 450 Network Modeling

Prerequisite: MNS 407, SCM 440

Analysis of supply chain networks to evaluate strategic alternatives using both optimization and probabilistic models. Evaluate supply chain options under real-world variability and unknowns to quantify operational and financial risks from your supply chain, markets and competitors. Modeling in spreadsheets, discrete event software and system dynamics software.