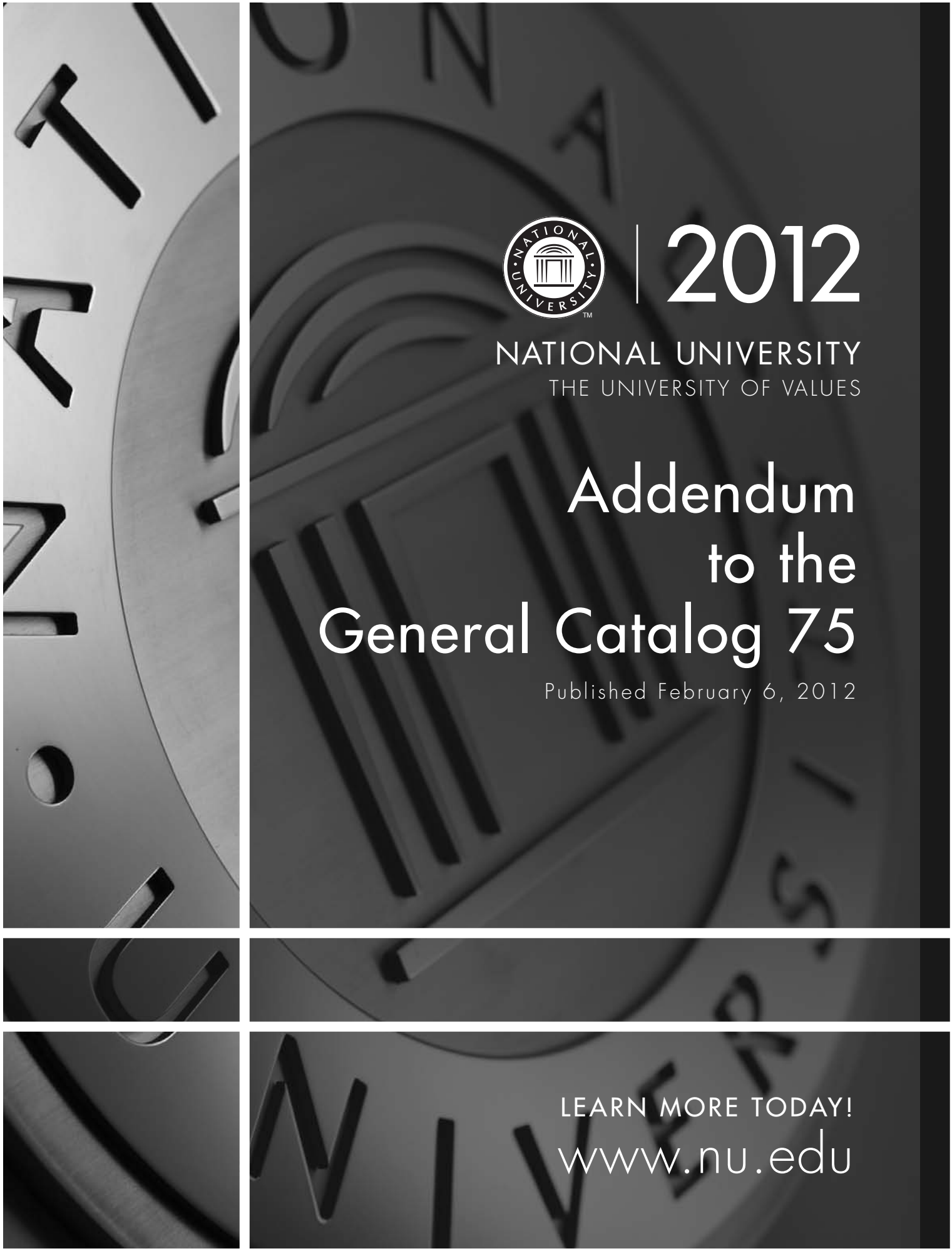

2012

NATIONAL UNIVERSITY

THE UNIVERSITY OF VALUES

Addendum to the General Catalog 75

Published February 6, 2012

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LEGEND:

Entire program can be completed online.

On-site program with possible online courses or prerequisites.

Online program with residency in Los Angeles.

Not all courses or programs are available at every campus. Consult an admissions advisor for online course availability. Courses are 4.5 quarter units unless otherwise noted.

STUDENTS WITH DISABILITIES

It is the policy of National University, in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, as amended, and other federal and state disability nondiscrimination laws, that no student shall, on the basis of his/her disability, be excluded from participation in, be denied the benefits of, or otherwise be subject to discrimination under any University program or activity.

National University is committed to providing qualified students with disabilities an equal opportunity to access the benefits, rights, and privileges of University services, programs, and activities, in the most integrated setting appropriate to the students' needs. National University is committed to providing reasonable accommodations to qualified students with disabilities in order to ensure that all students have an equal opportunity to benefit from and have access to programs and services. "Reasonable accommodation" means a reasonable modification or adjustment that enables qualified students with disabilities to have equal access to programs and services. Under the law, "reasonable accommodation" may include, but is not limited to, removal of barriers of access of the physical facilities or programs, "academic adjustments" such as modification of academic requirements, policies and procedures, and "auxiliary aids" such as taped texts, interpreters, readers and other similar services and actions.

The Office of Scholarships and Special Services provides disability consultation and coordination of support services and accommodations for all qualified students with disabilities. Interested students should consult the University Policy on requesting Special Accommodations.

Students or prospective students who want to read the complete National University Policy and Procedures, Services to Students with Disabilities, should request a copy from an advisor.

Requesting Special Accommodations

Students with disabilities have the right to obtain reasonable accommodations. National University will make such modifications to its academic requirements as are necessary to ensure that such requirements do not discriminate or have the effect of discriminating on the basis of disability against a qualified applicant or student with a disability. Modifications may include changes in the length of time permitted for the completion of the degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted. In course examinations or other procedures for evaluating students' academic achievement, the University shall provide methods for evaluating the achievement of students with disabilities that impair sensory, manual, or speaking skills as will best ensure that the results of the evaluation represent the student's achievement in the course, rather than reflecting the students impaired sensory, manual, or speaking skills, except where such skills are the factors that the test purports to measure.

The University will take necessary steps to ensure that no qualified disabled student is denied the benefits of, excluded from participation in, or otherwise subjected to discrimination because of the absence of educational auxiliary aids. Auxiliary aids may include taped texts, interpreters or other effective methods of making orally delivered materials available to students with hearing impairments, readers in libraries for students with visual impairments, classroom equipment adapted for use by students with manual impairments, and other similar services and actions. Accommodations cannot be provided which would fundamentally alter the nature of the program, cause undue hardship on the University, or jeopardize the health or safety of others. Reasonable accommodations must specifically address the fundamental limitations of the student's specific disability.

Registration

Students seeking special accommodations due to a disability should contact the Office of Scholarships and Special Services in order to complete the required application form. The Office of Scholarships and Special Services will discuss potential accommodations and required documentation with the student. Students are encouraged to make accommodation requests as far in advance as possible. Accommodations are not retroactive. Accommodations for students with disabilities do not take effect until you have self-identified to the Office of Scholarships and Special Services, submitted an application, provided appropriate documentation, and received a letter identifying what accommodations have been approved.

Documentation

Disability documentation must be signed by a licensed physician, psychologist, audiologist, speech pathologist, physical therapist, occupational therapist, or other professional health care provider. Documentation should indicate the student's current level of functioning with respect to the major life activity impacted by the disability. The diagnostic report should include, where appropriate, recommendations for specific accommodations and an explanation of the reason the accommodation is recommended. In some situations, the University may request additional documentation . The cost of obtaining professional documentation of a disability is the responsibility of the student.

Accommodation Determination

The Committee for Students with Disabilities will consider all materials, consult with relevant faculty where necessary, and afford qualifying individuals with appropriate accommodation. The student may provide additional input from an appropriate professional at the student's expense if the student deems such input to be necessary. A decision will be rendered within seven business days from the date of the reasonable accommodation request.

Once a student is approved to receive special accommodation(s), the Coordinator of Scholarships and Special Services will provide an accommodation letter to the student. It is the student's responsibility to present this letter to his/her instructor on the first night of class. A student may or may not elect to use the accommodation.

A letter is also sent to the instructor telling him/her that a student enrolled in his/her class may approach them with an approved accommodation(s). The letter will not identify the student. If a student does not approach the faculty member, that student will be deemed to have elected to not request the accommodation(s). Again, a student may elect not to use the accommodation. This happens regularly as students often decide if they think they will need a given accommodation after reviewing the syllabus.

If there is a physical accommodation required (like a separate testing room for an onsite class or a special seat) a letter will also be sent to the campus. The student is responsible for arranging this with the campus. The Office of Scholarships and Special Services will provide a proctor (when approved as an accommodation) for an exam.

Under no circumstances should a faculty member allow a student any type of accommodations without a letter from the Coordinator of Scholarships and Special Services. Any information that a student gives to the faculty member is to be used only for arranging accommodations for the course of study and may not be disclosed.

Instructors are not authorized to unilaterally deny a student an approved accommodation.

Denial or Insufficiency of Accommodation

If a student is denied accommodation or believes that the accommodation afforded is insufficient, the student may appeal to the Vice President for Student Services, who will render a decision within seven (7) days of receipt of the appeal or prior to the start date of the next course, depending on which occurs first. The decision of the Vice President is final.

Students have the right to appeal any decision by the University denying a requested reasonable accommodation to outside enforcement Agencies, such as the Office for Civil Rights of the United States Department of Education or the California Department of Fair Employment and Housing. See "Appellate Procedures for Civil Rights Issues" in the Policies and Procedures section of the General Catalog. Any complaint must be filed with the Office for Civil Rights within 180 calendar days of the University's final decision, or with the California Department of Fair Employment and Housing within one year of the University's final decision. Students need not exhaust the University's appeal procedures in order to file an appeal with an outside agency.

Problems in Receiving Approved Accommodations

In the event that a student believes he/she is not receiving an accommodation that is specified in their accommodation letter, the student should immediately contact the Coordinator of Scholarships and Special Services, who will take necessary action to see that the approved accommodation is furnished.

Confidentiality

Information concerning a student's disability and any accommodations provided is confidential, and will be disclosed only as necessary to establish a student's eligibility for accommodations and to provide those accommodations. Information will be shared with the instructor only to the extent necessary to provide a reasonable accommodation.

Contact Person for Accommodation Matters

Contact the Coordinator of Scholarships and Special Services at (858) 642-8185 or e-mail specialservices@nu.edu if you have any questions or if you require further assistance.

Applications for accommodations for a disability may be sent to:
The Office of Scholarships and Special Services
National University
11255 North Torrey Pines Road
La Jolla, CA 92037-1011
Phone: (858) 642-8185
The California Relay Operator can be reached at 711.

Language Proficiency

DAAD Transfer Equivalencies & Scoring System

	Undergraduate	Graduate
TOEFL Paper-based Test	525	550
TOEFL Computer-based Test	197	213
TOEFL Internet-based Test	70	79
IELTS	5.5	6
DAAD	All from Level A or all from Level B, or a combination of Level A and B only	All from Level A or all from Level B, or a combination of Level A and B only

College of Letters and Sciences

Programs Now Available Online

Associate of Arts Major in Communications
Master of Arts in Applied Gerontology

Terminated Programs

Associate of Arts with Concentration in Public Administration
Associate of Arts with Concentration in Videogame Production

Bachelor of Arts Major in Arabic Studies
Bachelor of Arts Major in Chinese Studies
Bachelor of Arts Major in Persian Studies
Bachelor of Science Major in Environmental Science and Policy

Minor in Arabic Studies
Minor in Chinese Studies
Minor in Chinese Culture and History
Minor in Arabic Culture and History
Minor in Persian Culture and History

Master of Arts in Rhetoric and Composition
Master of Arts in Social Transformation and Community Development

Legal Assistant Certificate

General Education

BST 322 is the course equivalent to NSG 322 and will count towards General Education AREA B if NSG 322 has not been completed.

Modified Programs

■ BACHELOR OF ARTS

◆ MAJOR IN ENGLISH

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu

The Bachelor of Arts in English provides a strong background in the study of English. The program stresses literary analysis, diversity, critical thinking, and written and oral communication skills through a rigorous curriculum of literature, composition, language and linguistics, and communication studies. It is an excellent preparation for careers in teaching, media, advertising, writing, and publishing; for graduate or professional studies in English, communications, or law; and for advancement in any field in which communication skills are important. Students interested in creative writing may choose the concentration in creative writing.

Note: Students interested in teaching English or Language Arts in middle or secondary schools should consider enrolling in the Single Subject Matter Preparation Program or the major in English with Single Subject Credential.

Program Learning Outcomes

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

- Knowledgeably discuss the major writers, works, movements, and periods of the British and American literary traditions.
- Evaluate the relationship of marginalized or oppositional voices to the evolution of literary traditions and histories.
- Analyze literary works within their historical and cultural contexts.
- Analyze works of literature in the context of the conventions and histories of their genres.

- Analyze the use and effects of literary and rhetorical features of literary texts.
- Identify major critical approaches to the interpretation literature.
- Compose sophisticated written works of literary analysis, incorporating appropriate close reading, research, and writing skills.

Degree Requirements

To receive the Bachelor of Arts in English degree, 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 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. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation.

Preparation for the Major
(1 course; 4.5 quarter units)

LIT 100* Introduction to Literature
Prerequisite: ENG 100, and ENG 101
* May be used to meet a General Education requirement

Additional Preparation for Major in English with Concentration in Creative Writing
(2 courses; 9 quarter units)

Two of the following:
ENG 201 Fiction Writing I
Prerequisite: LIT 100
ENG 202 Poetry Writing I
Prerequisite: LIT 100
ENG 203 Screenwriting I
Prerequisite: LIT 100, or ART 315

Requirements for the Major
(8 courses; 36 quarter units)

LIT 311 British Literature I
Prerequisite: LIT 100
LIT 312 British Literature II
Prerequisite: LIT 100
LIT 321 American Literature I
Prerequisite: LIT 100
LIT 322 American Literature II
Prerequisite: LIT 100
LIT 338 Shakespeare
Prerequisite: LIT 100
LIT 360 Literary Theory
Prerequisite: LIT 100
LIT 463 20th Century World Literature
Prerequisite: LIT 100
LIT 498 English Capstone Course
Prerequisite: Satisfactory completion of 8 upper-division LIT courses

Upper-Division Electives for English Major without Creative Writing Concentration
(8 courses; 36 quarter units)

Any three additional upper division LIT courses
and
One of the following:
ART 315 Film as Art
Prerequisite: ENG 100, ENG 101
COM 360+ Representation in the Media
Prerequisite: ENG 100, and/or ENG 101
COM 385 Tale, Text and Hypertext
Prerequisite: ENG 100, and ENG 101
ENG 301 Fiction Writing II
Prerequisite: ENG 201
ENG 302 Poetry Writing II
Prerequisite: ENG 202
ENG 303 Screenwriting II
Prerequisite: ENG 203
ENG 310 English Grammar
Prerequisite: ENG 101
ENG 350 Fundamentals of Linguistics
Prerequisite: ENG 100, and ENG 101
ENG 352 Origins of English
Prerequisite: ENG 100, and ENG 101
ENG 375 Nature Writing
Prerequisite: ENG 100, and ENG 101
+ Diversity Enriched Offering

and
Any four additional upper-division courses in the College of Letters and Sciences.

or

▲ Concentration in Creative Writing

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Discuss the basic conventions of at least two different contemporary creative genres.
- Produce completed works of publishable quality in those genres.
- Read their own work critically and employ revision strategies to improve it to publishable standards.
- Critique the writing of others in a collegial setting and offer constructive suggestions for improving it to publishable quality.
- Produce a significant project of publishable quality in one genre.

Concentration Requirements
(8 courses; 36 quarter units)

Two of the following:
ENG 301 Fiction Writing II
Prerequisite: ENG 201
ENG 302 Poetry Writing II
Prerequisite: ENG 202
ENG 303 Screenwriting II
Prerequisite: ENG 203
ENG 375 Nature Writing
Prerequisite: ENG 100, and ENG 101
and
One of the following:
ENG 401 Fiction Workshop
Prerequisite: ENG 301
ENG 402 Poetry Workshop
Prerequisite: ENG 302
ENG 403 Screenwriting Workshop
Prerequisite: ENG 303
and
One of the following:
LIT 401 Contemporary Fiction
Prerequisite: LIT 100
LIT 402 Contemporary Poetry
Prerequisite: LIT 100
and
Any two additional upper division LIT courses

and
Any two additional upper division courses in the College of Letters and Sciences.

■ BACHELOR OF ARTS
◆ MAJOR IN ENGLISH WITH A PRELIMINARY SINGLE SUBJECT TEACHING CREDENTIAL (CALIFORNIA) 🗁

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu
For Credential: Mary Anne Weegar; (858) 642-8360; mweegar@nu.edu

The Bachelor of Arts in English with a Preliminary Single Subject Credential provides a rigorous education that prepares candidates for a career as a teacher of English at the middle and secondary school levels. The program stresses literary analysis, diversity, and critical thinking and written and oral communication skills through a rigorous curriculum of literature, composition, language and linguistics, and communication studies. This program prepares candidates for professional work as single subject teachers in a changing cultural and economic environment.

Please see additional Credential requirements listed at the end of the Teacher Education Department area of the School of Education's section of the catalog.

Program Learning Outcomes

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

- Knowledgeably discuss major writers, works, movements, and periods of the British and American literary traditions.
- Evaluate the relationship of marginalized or oppositional voices to the evolution of literary traditions and histories.
- Analyze literary works within their historical and cultural contexts
- Analyze works of literature in the context of the conventions and histories of their genres.
- Analyze the use and effects of literary and rhetorical features of literary texts.
- Identify major critical approaches to the interpretation of literature.
- Compose sophisticated written works of literary analysis, incorporating appropriate close reading, research, and writing skills.
- Apply educational technology to meet the needs of all learners.
- Explain how to support growth in cognitive, social, physical and emotional domains.
- Create positive learning environments that ensure healthy human growth.
- Utilize systematic observations, documentation, and other assessment strategies to facilitate and account for learning and to support positive growth.
- Design, implement, and evaluate standards-based lesson plans for learning and achievement in content areas.
- Demonstrate professional standards and ethics.
- Utilize different teaching strategies to accomplish teaching and learning goals.

Degree Requirements

To receive a Bachelor of Arts in English with a Single Subject Teaching Credential, candidates must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University and 76.5 of which must be completed at the upper-division level, and the university General Education. 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.

Preparation for the Major
(1 course; 4.5 quarter units)

LIT 100* Introduction to Literature
Prerequisite: ENG 100, and ENG 101
* May also be used to satisfy General Education requirements.

Requirements for the Major
(24 courses; 108 quarter units)

English Requirements
(11 courses; 49.5 quarter units)

ENG 350 Fundamentals of Linguistics
Prerequisite: ENG 100, and ENG 101
LIT 311 British Literature I
Prerequisite: LIT 100
LIT 312 British Literature II
Prerequisite: LIT 100
LIT 321 American Literature I
Prerequisite: LIT 100
LIT 322 American Literature II
Prerequisite: LIT 100
LIT 338 Shakespeare
Prerequisite: LIT 100
LIT 360 Literary Theory
Prerequisite: LIT 100
LIT 463 20th Century World Literature
Prerequisite: LIT 100
LIT 498 English Capstone Course
Prerequisite: Satisfactory completion of 8 upper-division LIT courses
and
Any two additional upper division Literature (LIT) courses from available offerings.

Education Orientation, Theory and Methodology Requirements
(8 courses; 36 quarter units)

Students must complete TED 305 prior to TPA 1. All Teacher Education (TED) courses include a field experience component. It is strongly recommended students take the following courses in the order they are listed.
TED 305 Teaching as a Profession
TED 300 Fundamentals of Education
Prerequisite: TED 305, or TED 320
TED 430 Special Needs Students
Prerequisite: TED 305, or TED 320
TED 410 Survey of Multicultural Lit.
Prerequisite: TED 305, or TED 320
TED 310 Development and Learning
Prerequisite: TED 305, or TED 320
TED 420 Diversity in Schooling
Prerequisite: TED 305, or TED 320
TED 330B Reading and Language Arts
Prerequisite: TED 305, or TED 320
TED 450 Methods of Teaching English
Prerequisite: TED 305, or TED 320

Student Teaching Requirements
(3 courses; 13.5 quarter units)

TED 530A, 530B and 531 are field experience courses receiving a Satisfactory or Unsatisfactory grade and are not factored into cumulative GPA.
TED 530A Student Teaching I
Corequisite: TED 531
TED 530B Student Teaching II
Prerequisite: TED 530A, Corequisite: TED 531

TED 531 Student Teaching Seminar
Corequisite: TED 530A, and TED 530B

Additional Courses for Satisfying SB2042 and CTC for California Teaching Credential
(2 courses; 9 quarter units)

Students must have senior standing to enroll in these two classes. The classes are considered graduate level. The grades earned must be a "B" or better. These courses will not transfer to any graduate level program (at National University or elsewhere).

EDX 1201X Computer-based Technology in the Classroom
HEDX 1201X Health Education for Teachers

■ BACHELOR OF ARTS
◆ MAJOR IN ENGLISH WITH SINGLE-SUBJECT MATTER PREPARATION

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu

The major in English with Single Subject Matter Preparation is designed to prepare students for careers teaching middle or secondary school English or language arts. The program is approved by the California Commission on Teacher Credentialing: students who complete this program, including the required portfolio, will not be required to take the California Subject Examination for Teachers (CSET) in English to receive their teaching credential. To fulfill the Single Subject Matter Preparation standards mandated by the state of California, the program requires additional study in certain areas beyond what is required by the regular major in English. In order to receive the equivalency letter, students must also submit a portfolio of work produced in program courses; the requirements of the portfolio are covered in ENG 300.

Program Learning Outcomes

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

- Knowledgeably discuss major writers, works, movements, and periods of the British and American literary traditions.
- Evaluate the relationship of marginalized or oppositional voices to the evolution of literary traditions and histories.
- Analyze literary works within their historical and cultural contexts.
- Analyze works of literature in the context of the conventions and histories of their genres.
- Analyze the use and effects of literary and rhetorical features of literary texts.
- Identify major critical approaches to the interpretation of works of literature.
- Compose sophisticated written works of literary analysis, incorporating appropriate close reading, research, and writing skills.
- Analyze popular media texts and their effects on consumers.
- Identify issues and challenges confronting middle and secondary school English teachers in the public schools.
- Discuss language structures, language acquisition, linguistic diversity and the development of literacy.

Degree Requirements

To receive a Bachelor of Arts in English with Single-Subject Matter Preparation candidates 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 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.

Preparation for the Major
(5 courses; 22.5 quarter units)

COM 103* Public Speaking
ILR 260* Information Literacy
Prerequisite: ENG 100, and ENG 101
LIT 100* Introduction to Literature
Prerequisite: ENG 100, and ENG 101
THR 200* Theater Arts
ENG 201 Fiction Writing I
Prerequisite: LIT 100
or
ENG 202 Poetry Writing I
Prerequisite: LIT 100
or
ENG 203 Screenwriting I
Prerequisite: LIT 100, or ART 315

* May be used to meet a General Education requirement

Requirements for the Major
(14 courses; 63 quarter units)

Note: ENG 300 should be taken as early in the student's program as possible; it requires a 31.5 hour observation in the public schools

COM 360+ Representation in the Media
Prerequisite: ENG 100, and/or ENG 101
ENG 300 English Practicum & Portfolio
ENG 350 Fundamentals of Linguistics
Prerequisite: ENG 100, and ENG 101
LIT 311 British Literature I
Prerequisite: LIT 100
LIT 312 British Literature II
Prerequisite: LIT 100
LIT 321 American Literature I
Prerequisite: LIT 100
LIT 322 American Literature II
Prerequisite: LIT 100
LIT 338 Shakespeare
Prerequisite: LIT 100
LIT 360 Literary Theory
Prerequisite: LIT 100
LIT 463 20th Century World Literature
Prerequisite: LIT 100
LIT 498 English Capstone Course
Prerequisite: Satisfactory completion of 8 upper-division LIT courses
and
Choose any three additional upper-division Literature (LIT) courses from available offerings.
+ Diversity Enriched Offering

Upper-Division Elective
(1 course; 4.5 quarter units)

Students can use any upper-division course in the College of Letters and Sciences to fulfill the Upper-Division Elective requirement.
Important Note: Students enrolled in the Single Subject Matter Preparation program who take any of the Requirements for the Major online may be required to complete one or more of the examinations in those courses at a National University campus computer lab or other approved location. Students with questions about this requirement should contact the program Faculty Advisor.

The Portfolio Requirement

In order to receive the Single Subject Matter Preparation equivalency letter, all students must submit a portfolio of work

completed in program classes. *(Note: the portfolio is not a graduation requirement.)* The specific requirements of this portfolio are discussed in ENG 300. The portfolio itself is submitted upon completion of the program. Students who have completed required program coursework at other colleges or universities will need to submit work from those courses or eligible substitutions. Students or prospective students with questions about this requirement should contact the program Faculty Advisor.

■ BACHELOR OF ARTS
◆ MAJOR IN POLITICAL SCIENCE

Faculty Advisor: Shak Hanish; (858) 642-8494; shanish@nu.edu

Political science, the systematic and rigorous study of politics and government, is becoming increasingly crucial in a complex and controversial world. Current cynicism about politics and public leadership belies a need for responsive, representative, effective, and capable public authority. Citizens still expect government to tackle such intimidating social problems, such as healthcare, community security, economic, and social justice and the balancing of conflicting rights and freedoms. Political science analyzes the ways societies use public authority to address collective problems. The political science program is designed to equip students with specialized research and analytical skills as well as familiarity with more generalized problem-solving skills sufficient to allow them to make valuable contributions to any vocation or enterprise they pursue and to insure that they will be prepared to solve public problems.

The Bachelor of Arts in Political Science will engage students in the study of social, economic, and political life, nationally and globally. A bachelor's degree in political science can lead to exciting careers in federal, state, and local governments; law, business, and international organizations; nonprofit associations and organizations; campaign management, electoral politics, and polling; journalism;, and research and teaching.

BA Political Science/Master of Public Administration (MPA) Transition Program

Students who are currently enrolled in the BA Political Science program who have at least a cumulative GPA of 3.0 and are within six courses of completion of the BA program may register for the BA Political Science/MPA transition program. They may do this by asking their admission advisor to submit a plan change into the transition program allowing them to take two MPA classes as electives during the BA Political Science program. To be eligible, students must apply for and begin the MPA program within six months of completing their Political Science degree. Students may choose up to two 600 level public administration (PAD) courses with the exception of PAD 631 and PAD 644.

For students in the BA Political Science/MPA transition program, the University will waive two graduate-level public administration courses taken as part of the bachelor's degree, but these students must still meet the residency requirements for the MPA.

Program Learning Outcomes

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

- Explain major theories, concepts, and methods of political science.
- Apply key political science perspectives and theories to real world situations.
- Apply the methods used by political scientists to undertake research and answer questions about politics and government.

Degree Requirements

To be awarded a Bachelor of Arts in Political Science, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University and 76.5 of which must be completed at the upper-division level. 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.

Preparation for the Major

(1 course; 4.5 quarter units)

POL 100*	Introduction to Politics *Prerequisite: ENG 100, and ENG 101*

* May be used to meet a General Education requirement

Requirements for the Major

(9 courses; 40.5 quarter units)

POL 320	Politics of Social Movements *Prerequisite: ENG 100, and ENG 101*
POL 330	Political Theory *Prerequisite: ENG 100, and ENG 101*
POL 340	Comparative Politics *Prerequisite: ENG 100, and ENG 101*
POL 350	International Relations *Prerequisite: ENG 100, and ENG 101*
POL 360	Public Policy *Prerequisite: ENG 100, and ENG 101*
POL 400	European Politics *Prerequisite: ENG 100, and ENG 101*
POL 410	Middle Eastern Politics *Prerequisite: ENG 100, and ENG 101*
POL 540	American Political System
POL 499	Capstone Seminar in Politics *Prerequisite: ENG 240 and completion of at least 27 units of core courses in the major*

Required Upper-Division Electives

(7 courses; 31.5 quarter units)

Students should choose from the following upper-division Electives:

CJA 467	Intl. & Domestic Terrorism
COM 380*	Democracy in the Info. Age *Prerequisite: ENG 100, and ENG 101*
GLS 410	Gender and Global Society *Prerequisite: ENG 240*
GLS 430	The Global Economy *Prerequisite: ENG 240*
HIS 320	Culture of Global Capitalism *Prerequisite: ENG 100, ENG 101*
SOC 350+	Cultural Diversity *Prerequisite: ENG 100, and ENG 101*
HUM 501	Global Civic Culture *Prerequisite: ENG 100, and ENG 101*
PAD 403	Government Relations
PHL 320*	World Religions *Prerequisite: ENG 100, and ENG 101*
PHL 375	Environmental Ethics *Prerequisite: ENG 100, and ENG 101*
POL 490	Guided Study (variable units)
POL 539	Dynamics of World Politics
SOC 385	Methods of Social Inquiry *Prerequisite: ENG 100, ENG 101, and SOC 100*
SOC 445	Contemporary Social Problems *Prerequisite: ENG 100, and ENG 101*
SOC 540	Power and Social Change *Prerequisite: ENG 100, and ENG 101*

* May be used to meet a General Education requirement
+ Diversity Enriched Offering

● Minor in English

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu

The Minor in English is designed to provide students with a grounding in some of the major periods, movements, and authors of British and American literature, and the opportunity to pursue further study of topics of interest to them.

Degree Requirements

Requirements for the Minor
(6 courses; 27 quarter units)

Choose at least three of the following courses:

LIT 311	British Literature I *Prerequisite: LIT 100*
LIT 312	British Literature II *Prerequisite: LIT 100*
LIT 321	American Literature I *Prerequisite: LIT 100*
LIT 322	American Literature II *Prerequisite: LIT 100*
LIT 338	Shakespeare *Prerequisite: LIT 100*

Choose the remaining course(s) from available upper-division LIT courses or the following:

ART 315	Film as Art *Prerequisite: ENG 100, ENG 101*
ENG 301	Fiction Writing II *Prerequisite: ENG 201*
ENG 302	Poetry Writing II *Prerequisite: ENG 202*
ENG 303	Screenwriting II *Prerequisite: ENG 203*
ENG 350	Fundamentals of Linguistics *Prerequisite: ENG 100, and ENG 101*
ENG 375	Nature Writing *Prerequisite: ENG 100, and ENG 101*

■ MASTER OF ARTS IN COUNSELING PSYCHOLOGY

Faculty Advisor: Valerie Alexander; (858) 642-8343; valexand@nu.edu

Students enrolling in the September 2012 cohort and subsequent cohorts will be required to meet the following program requirements:

- All students must pass an English Language Proficiency Exam. Please contact the Lead Faculty for more details.
- Students who do not have an undergraduate degree in psychology or a closely related discipline must take PSY 501A and PSY 501B as the first two courses in their program. These courses will serve as the elective credit for those students.

■ MASTER OF FINE ARTS IN DIGITAL CINEMA

Faculty Advisor: Edward Warren; (714) 429-5131; awarren@nu.edu

The Digital Cinema MFA program provides graduates with an in-depth study of digital motion picture production and postproduction and a foundation in film history. Graduate fellows develop technical skills in digital cinema production, the ability to critically evaluate film and video projects for practical and commercial outcomes, and a critical acumen in the area of film, visual communication and media studies. The curriculum covers screenwriting, digital cinematography, lighting, directing, production management, non-linear editing and post-production workflow, producing and distribution.

The program focuses on developing filmmakers well versed in all aspects of low budget, independent narrative and documentary style filmmaking and prepares graduates to work in a variety of production capacities in the following fields: commercial or industrial film and television, digital entertainment media and communication, educational or instructional media production. At the completion of the Digital Cinema program, students will possess the knowledge and skills needed to produce a professional quality digital motion picture and to participate in the ongoing scholarly and critical discussions of issues in the field of film, film theory and criticism.

The MDC program consists of five core seminars and six workshops with concurrent studio practica. In addition, depending upon their thesis project and professional interests, graduate fellows select one elective in film studies and one specialization workshop in advanced screenwriting or producing documentaries prior to taking the 4- course thesis sequence. Graduate fellows will complete the program with an original professional quality, digital short tailored to their interests, needs and desire for career development and a written thesis containing original research, critical analysis and a complete record of the thesis project. At the completion of the Digital Cinema program, students will possess the knowledge and skills needed to produce a professional quality digital motion picture and to participate in the ongoing scholarly and critical discussions of issues in the field of film, film theory and criticism.

Program Delivery Format

The MDC program is offered as a hybrid format with instruction for a majority of courses delivered online, and a required one-month intensive residency at the Los Angeles campus. The program is also offered full-time at the National University Los Angeles campus with a majority of classes conducted onsite.

All Digital Cinema fellows must take the intensive residency consisting of three courses onsite at the National University Los Angeles campus: MDC 683P Directing and Production Management Practicum, MDC 688 Production & MDC689 Postproduction. The MDC 688 Production workshop lasts the first two weeks of the month and the second, MDC 689 Post-production, runs for two weeks during the second half of the month. MDC 683P runs for the whole month. These three workshops provide students with hands-on production experience in a collaborative environment using professional equipment and must be completed prior to the thesis sequence. Students who are unable to devote a full month onsite for both MDC 688 and MDC 689 may elect to split the onsite residency by taking MDC 689 first and then later scheduling MDC 683P and MDC 688, which must be taken concurrently. For more information on the residency workshops, contact the program lead faculty advisor.

Production and Course material fees listed below cover the additional costs of the residency including workshop and production, expendables, materials, supplies and related expenses. Expenses for accommodation and transportation are not included in the fees or tuition, and students are responsible for arranging their own accommodations and transportation during the onsite residency. Additional equipment fees may apply to some onsite workshop courses.

For more information on program formats, residency workshops, onsite courses and fees, contact the program lead faculty advisor.

Production and Course Material Fees

MDC 688 Course Fee..... $1,200
MDC 689 Course Fee..... $550

Thesis Sequence

To qualify for the Digital Cinema thesis sequence the MFA fellow must have successfully completed all core courses by maintaining a "B" average and have completed the Production Sequence with a minimum grade of "B." Candidates who do not meet these criteria will be required to successfully repeat a course based upon policies for Graduate programs published in the National University catalog and consultation with the program lead faculty. Through the thesis project a thesis fellow must demonstrate her/his ability to work under the guidance of a thesis advisor to independently develop, produce and edit a short subject digital motion picture project of between 12 and 30 minutes in length, that presents a coherent storyline and sustains the interest of a discriminating audience. Projects may be documentary or fiction. Specific parameters of the project are developed in consultation with a thesis advisor.

In addition to the digital short motion picture, the MFA Candidate must complete a written thesis that demonstrates the candidate's ability to communicate coherently, critically, and creatively. It will include the complete production documentation—a treatment or synopsis, a project funding, budget, schedule and distribution plan and a shooting script—as well as a critical analysis of the project, relevant genre influences, and a self-assessment of the candidate's evolution as a filmmaker during the thesis period.

The thesis sequence consists of four-courses and may last from 12-18 months. The courses are: MDC692 Thesis Development, MDC693 Thesis Production, MDC694 Thesis Post-Production and MDC 695 Thesis Qualification. During Thesis Development a thesis fellow works with a thesis advisor to develop the story and outline for a short film project and completes a formal thesis proposal that includes a first draft of a fiction screenplay or documentary production outline. Upon qualification of the proposal, the fellow is eligible for the Thesis Production course. During this time the candidate develops a shooting script, conducts pre-production planning and completes the production phase of the project. Upon satisfactory completion of the production phase, the fellow is eligible for post-production, during which s/he edits and submits a series of cuts for review by the editorial thesis advisor. During post-production the editorial thesis advisor will arrange for the thesis development and production advisors to review the project as a thesis committee based on the progress and completeness of the project. The committee will provide written notes and criteria for successful qualification of the film to the thesis fellow for incorporation into a director's cut. A thesis film must satisfactorily meet the qualification standards set by the thesis committee in order to pass Thesis Post-production.

Upon satisfactory completion of the post-production course, the fellow is eligible for Thesis Qualification, during which s/he completes the written thesis and submits it for evaluation. The thesis committee then makes the final determination on whether or not the thesis fellow has met or exceeded the qualification requirements for the Digital Cinema Master of Fine Arts.

A fellow must satisfactorily complete each thesis course within the specified term of the course. Thesis Development is four months. Production and Post-production courses are three months each, and the Qualification course is two months. Consideration for incompletes are considered based on University policy. Any thesis course that receives an unsatisfactory evaluation must be repeated.

Application Requirements

To be considered for admission, applicants must meet the University graduate admission requirements listed in the catalog under general information for graduate degrees as well as the following MDC program criteria. Students must submit an application packet, pass a personal interview, and attend the program orientation before they may begin classes. The application will determine applicant proficiency and skill sets in digital technology, editing and photography as well as writing and communication in English at the graduate level.

Students interested in enrolling in this program should contact the MDC program lead faculty advisor for further information regarding the application process and to determine at what point in the sequence they might enter the program. Entrance points may vary depending on applicant experience, skills and proficiencies.

Program Prerequisites

Students in the Digital Cinema MFA are required to conduct independent research and be able to write at the graduate level. It is recommended that students have had undergraduate courses or experience in some of the following areas: communication, film, literature, media studies, graphic design, multimedia arts, history, philosophy, psychology or sociology. The MDC application and personal interview will determine whether or not an applicant meets the program prerequisites. A successful applicant should have entry-level knowledge of video editing software and be able to create new projects, capture digital video and audio assets, assemble and insert, edit, and export sequences to a variety of QuickTime formats for DVD, Internet and streaming formats.

Students are also required to have the basic technical knowledge and skills needed to operate a digital camera using manual settings and be familiar with photographic principles like exposure, iris, and shutter, as well as such digital concepts as white balance, image resolution, frame rate and screen ratio. Students who do not have such experience or skills should take a basic noncredit video editing and digital photography preparation course. Students may also be asked to submit a short digital video project for consideration. Contact the program lead faculty for details.

Students admitted to the program are expected to possess or have reliable access to a high-speed Internet connection including an email account outside of National University for course projects and assignments and a personal computer that meets the system requirements for professional digital video editing software currently available. (Always check the manufacturer's web site for system requirements before purchasing software. Students may need to upgrade their computer or components to meet those specifications.) AVID Media Composer or Final Cut Pro editing software are used for the onsite editing and post-production course and students are expected to have a working knowledge of one of those software programs before taking MDC 652 & 689. All students must have access to a DVD rental service for films and television programs, and own an external FireWire 400 or 800 (IEEE 1394) hard drive for media storage. Students in the online/hybrid program must have access to a digital still camera, a digital video camera with manual controls, a tripod, a basic lighting kit, and nonlinear editing software prior to taking MDC 661, 651, and 652.

The following software is required to complete program course work: Microsoft Office (Word, Excel, PowerPoint, Internet Explorer) or comparable software capable of outputting PDF documents, a variety of standard browser plug-ins (i.e. JavaScript, Flash, QuickTime, etc.), an FTP client software (such as Fetch, CoreFTP, FileZilla, etc.), Adobe Photoshop Elements (or equivalent photo image processing program (MDC661 & 651), Apple QuickTime Pro and the above mentioned AVID Media or Composer, Final Cut Pro or a comparable digital video editing software package (MDC 662 & 652), project management software like GanttProject or equivalent by Gorilla or EP (MDC 650, 683, 683P), and a script writing program such as CELTX, MovieMagic or Final Draft (MDC 680 & 681). Students should plan to learn how to operate the software before taking related classes. For more information on any of the above requirements contact the program lead faculty advisor.

Program Learning Outcomes

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

- Critique the creative works of others using relevant critical models and professional vocabulary.
- Evaluate professional and theoretical issues and processes pertaining to movies and aspects of digital filmmaking based on recognized industry models and standards.
- Incorporate research from primary and secondary sources into sustained analyses and interpretations of screenplays, films and television programs.
- Generate an original narrative screenplay that incorporates standard industry format and narrative structural elements.
- Create an original screenplay or a documentary production treatment with a coherent structure and compelling storyline that engages and sustains the interest of a discriminating audience.
- Generate the standard industry documentation required to effectively communicate and collaborate with a production team during the development, production, editing and distribution of a professional motion picture.
- Generate original digital motion picture sequences using current cinematic theory and techniques to support the thematic concepts and story objectives of a script.
- Construct digital motion picture sequences using current visual and sound editing techniques and theory that engage and sustain the interest of a discriminating audience.
- Implement post-production workflow processes to capture, edit, finish and export digital video assets to appropriate distribution media.
- Create an original short motion picture based on an original concept with a coherent storyline that is significant and complex enough to engage and sustain the interest of a discriminating audience and is suitable for distribution or submission to a film festival.

Degree Requirements

(22 courses; 81 quarter units)

To receive a Master of Fine Arts, students in the Digital Cinema program must complete at least 81 quarter units of graduate work, of which a minimum of 63 quarter units must be taken at National University. Students can transfer up to 13.5 quarter units at the graduate level from a regionally accredited institution in the areas of communication, film, media studies, or production, provided the units have not been used to satisfy the requirements of an awarded degree. Program applicants wishing to transfer credits into the program should contact the program lead faculty advisor and arrange for an evaluation in advance. Refer to the section in the graduate admission requirements for additional specific information regarding application and matriculation.

First Year

(9 courses; 33.75 quarter units)

MDC 660 Narrative Structure in Film
MDC 680 Screenwriting
Corequisite: MDC 680P
MDC 680P Screenwriting I Practicum (2.25 quarter units)
Corequisite: MDC 680
MDC 661 Cinematic Design
MDC 652 Digital Editing
Corequisite: MDC 652P
MDC 652P Digital Editing Practicum (2.25 quarter units)
Corequisite: MDC 652
MDC 662 Sound Design
Prerequisite: MDC 652
MDC 651 Digital Cinematography
Corequisite: MDC 651P, Prerequisite: MDC 661
MDC 651P Cinematography Practicum (2.25 quarter units)
Corequisite: MDC 651

Second Year

(6 courses; 24.75 quarter units)

MDC 650 Producing Digital Cinema
MDC 653 Film Directing
Prerequisite: MDC 651, MDC 660, and MDC 662
MDC 683 Directing & Production Mgmt
Prerequisite: MDC 650, MDC 651, MDC 652, MDC 662, and MDC 653, Corequisite: MDC 683P, MDC 688, and MDC 689
MDC 683P Production Management (2.25 quarter units)
Four-week practicum only offered onsite and must be taken concurrently with MDC 688.
Corequisite: MDC 683
MDC 688 Production
Two-week workshop is only offered onsite and must be taken concurrently with MDC 683P.
Corequisite: MDC 683, Prerequisite: MDC 651, and MDC 653
MDC 689 Digital Cinema Post-Production
Two-week workshop is only offered onsite and recommended to be taken after MDC 688 and concurrently with MDC 683P.
Corequisite: MDC 683, Prerequisite: MDC 650, and MDC 652

The production sequence courses MDC 653 through MDC 688 must be taken in sequence. MDC 683P and MDC 688 and MDC 689 are only offered in an onsite residency at the National University Los Angeles Learning Center. This production residency is only offered in July of each academic year.

MDC 650 and MDC 688 may be taken separately by splitting the production residency into two visits. However the time to degree may be extended by up to 12 months. Contact the program Lead Faculty for more information.

Advanced Study

(2 courses; 6.75 quarter units)

MDC 670 Producing Documentaries
Corequisite: MDC 670P, Prerequisite: MDC 650, and MDC 683
MDC 670P Documentary Practicum (2.25 quarter units)
Corequisite: MDC 670, Prerequisite: MDC 650, and MDC 683
or
MDC 681 Screenwriting II
Corequisite: MDC 681P, Prerequisite: MDC 680
MDC 681P Screenwriting II Practicum (2.25 quarter units)
Corequisite: MDC 681

Electives

(1 course, 4.5 quarter units)

To complete the program, students may select one elective from any of the following courses or apply for an equivalency substitution with another graduate level course in media studies, media production, art or literary criticism, narrative or dramatic writing or theory. Contact program lead faculty for more information.

COM 610 Integrated Marketing Comm
ENG 665 Film Theory
ENG 666 Film History: The Silents
ENG 668 Film Genre Studies
ENG 667 Film History: American Film
ENG 669 World Film
ENG 685 Great Directors: American
ENG 686 Great Directors: International

SCR 650 Script Reading and Coverage

Thesis Sequence
(4 courses; 11.25 quarter units)

MDC 692 Thesis Development
Prerequisite: Satisfactory completion of all MDC core requirements.
MDC 693 Thesis Production (2.25 quarter units)
Prerequisite: MDC 692
MDC 694 Thesis Postproduction (2.25 quarter units)
Prerequisite: MDC 693
MDC 695 Thesis Qualification (2.25 quarter units)
Prerequisite: MDC 694

New Programs

■ ASSOCIATE OF ARTS
◆ MAJOR IN CREATIVE WRITING

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu

The AA with Major in Creative Writing is designed help students develop their interests and talents as creative writers and to give them the skills to continue to improve their writing. Students will be introduced to three different genres and given the opportunity for more advanced study in two of them. The program will provide a sound foundation for further work or study in creative writing.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Recognize the basic conventions of contemporary fiction, poetry, and screenwriting.
- Produce polished, completed works in two of the genres studied in the program (fiction, poetry, screenwriting).
- Analyze their own work critically and employ revision strategies to improve it.
- Critique the writing of others and offer constructive suggestions for improving it in a collegial setting.

Degree Requirements

To receive the Associate of Arts in Creative Writing, students must complete at least 90 quarter units, 31.5 of which must be taken in residence at National University. All students must complete the Associate general education. In the absence of transfer credit additional electives may need to be taken to meet the overall unit requirement of the degree. Please see Undergraduate Information section for admission and evaluation.

Preparation for the Major
(2 courses, 6 quarter units)

ENG 100* Effective College English I (3 quarter units)
Prerequisite: Satisfactory performance on Accuplacer
ENG 101* Effective College English II (3 quarter units)
Prerequisite: ENG 100
* May be used to meet a General Education requirement

Requirements for the Major
(9 courses; 40.5 quarter units)

LIT 100* Introduction to Literature
Prerequisite: ENG 100, and ENG 101
ENG 201 Fiction Writing I
Prerequisite: LIT 100
ENG 202 Poetry Writing I
Prerequisite: LIT 100
ENG 203 Screenwriting I
Prerequisite: LIT 100, or ART 315
ENG 240* Advanced Composition
Prerequisite: ENG 100, and ENG 101
* May be used to meet a General Education requirement

Two of the following courses:
ENG 301 Fiction Writing II
Prerequisite: ENG 201
ENG 302 Poetry Writing II
Prerequisite: ENG 202
ENG 303 Screenwriting II
Prerequisite: ENG 203
ENG 375 Nature Writing
Prerequisite: ENG 100, and ENG 101

Two of the following courses:
ART 100* Introduction to Art History
Prerequisite: ENG 100, and ENG 101
ART 200* Visual Arts
BRO 210 History of Television
Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103
COM 100* Intro to Mass Communication
MUL 245 Principles of Web Design
Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103
MUL 255 Interactive Design
Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103
MUS 100* Fundamentals of Music
PHL 100 Introduction to Philosophy
Prerequisite: ENG 100, and ENG 101
PSY 100* Introduction to Psychology
THR 200* Theater Arts
* May be used to meet a General Education requirement

● Minor in Creative Writing

Faculty Advisor: John Miller; (714) 429-5146; jmiller@nu.edu

The Minor in Creative Writing is designed for students in other majors who wish to develop their creative writing skills.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Discuss the basic conventions of at least two different contemporary creative genres.
- Produce polished, completed works in those genres.
- Read their own work critically and employ revision strategies to improve it.
- Critique the writing of others and offer constructive suggestions for improving it in a collegial setting.
- Produce a significant project in one genre.

Preparation for the Minor
(2-3 courses, 9-13.5 quarter units)

LIT 100* Introduction to Literature
Prerequisite: ENG 100, and ENG 101
* May be used to meet a General Education requirement

Students will also need to take one or more of the following prerequisites for the upper division requirements:
ENG 201 Fiction Writing I
Prerequisite: LIT 100
ENG 202 Poetry Writing I
Prerequisite: LIT 100

ENG 203 Screenwriting I
Prerequisite: LIT 100, or ART 315

Requirements for the Minor
(6 courses; 27 quarter units)

Two of the following:
ENG 301 Fiction Writing II
Prerequisite: ENG 201
ENG 302 Poetry Writing II
Prerequisite: ENG 202
ENG 303 Screenwriting II
Prerequisite: ENG 203
ENG 375 Nature Writing
Prerequisite: ENG 100, and ENG 101

One of the following:
LIT 401 Contemporary Fiction
Prerequisite: LIT 100
LIT 402 Contemporary Poetry
Prerequisite: LIT 100

One of the following:
ENG 401 Fiction Workshop
Prerequisite: ENG 301
ENG 402 Poetry Workshop
Prerequisite: LIT 100
ENG 403 Screenwriting Workshop
Prerequisite: ENG 303

Two of the following:
ART 315 Film as Art
Prerequisite: ENG 100, ENG 101
or
COM 360+ Representation in the Media
Prerequisite: ENG 100, and/or ENG 101
or
COM 385 Tale, Text and Hypertext
Prerequisite: ENG 100, and ENG 101
or
Upper-division ENG courses
or
Upper-division JRN courses
or
Upper-division LIT courses
+Diversity Enriched Offering

School of Business and Management

Programs Now Available Online

Associate of Arts with a Major in Business
Bachelor of Arts with a Major in Integrated Marketing Communications

Modified Programs

■ BACHELOR OF SCIENCE
◆ MAJOR IN ACCOUNTANCY

Faculty Advisor: Connie 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 auditing, accounting in not-for-profit organizations, and job opportunities with state and local government agencies such as the Internal Revenue Service, Defense Contract Audit Agency, FBI and others. Course content is based largely on the published content specifications of the Uniform CPA Exam. Students who do well in this academic program and who also, upon completing the program, invest several hundred hours of study in a recognized CPA Exam review course, have a good to excellent chance of passing the CPA Exam. All students are advised to contact a full-time accounting faculty member for a brief interview by phone or personal visit for the purpose of reviewing the student's career objectives.

Bachelor of Science in Accountancy to Master of Business Administration (MBA/BS ACC) 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 602, MKT 602, and MGT 605. 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 BBA course.The number of courses required to earn an MBA degree for transition program students is reduced from 14 to as few as 11 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:

- Use information technologies and computerized accounting software for financial accounting and reporting.
- Apply generally accepted accounting principles to measure and report information related to accounting for the assets, liabilities, equities, revenues and expenses, and cash flows of business enterprises and governmental and not-for-profit entities.
- Prepare tax returns and reports for individuals and business enterprises.
- Interpret cost data and prepare managerial accounting reports.
- Utilize generally accepted auditing principles in the audit of public, private, government, and not-for-profit entities.
- Apply ethical and legal concepts to accounting and tax related issues.
- Demonstrate effective communication of accounting information.

Requirements for the Major

(17 courses; 76.5 quarter units)

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 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.

Preparation for the Major

(4 courses; 18 quarter units)

MNS 205**	Intro to Quantitative Methods *Prerequisite: Placement Evaluation*
ECO 203**	Principles of Microeconomics
ECO 204**	Principles of Macroeconomics
ACC 201**	Financial Accounting Funds

* May be used to satisfy General Education Requirement
** Eligible for Credit-By-Exam waiver: contact Faculty Advisor

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

(5 courses; 22.5 quarter units)

LAW 304	Legal Aspects of Business I
BKM 400	Business Knowledge Mgmt Strat
MGT 309C	Prin. of Mgmt & Organizations
FIN 310	Business Finance *Prerequisite: ACC 201*
and	
MGT 430	Survey of Global Business *Prerequisite: ECO 203, and ECO 204*
or	
MKT 302A	Marketing Fundamentals
or	
MNS 407^	Management Science *Prerequisite: MNS 205*

^ (Recommended for students considering the CPA or CMA designation)

Core Accounting Requirements

(12 courses; 54 quarter units)

ACC 300	Applied Tech for Accountants *Prerequisite: ACC 201*
ACC 434	Government and Nonprofit Acct *Prerequisite: ACC 201*
ACC 433A	Managerial Accounting I *Prerequisite: ACC 201*
ACC 433B	Managerial Accounting II *Prerequisite: ACC 433A*
ACC 410A	Intermediate Accounting I *Prerequisite: ACC 201*
ACC 410B	Intermediate Accounting II *Prerequisite: ACC 410A*
ACC 410C	Intermediate Accounting III *Prerequisite: ACC 410B*
ACC 431	Advanced Accounting *Prerequisite: ACC 410C*
ACC 432A	Taxation-Individual *Prerequisite: ACC 431*
ACC 432B	Taxation-Business *Prerequisite: ACC 432A*
ACC 435A	Auditing I *Prerequisite: ACC 431*
ACC 435B	Auditing II *Prerequisite: ACC 435A*

■ MASTER OF ACCOUNTANCY

Faculty Advisor: Thomas Rim; (714) 429-5404; trim@nu.edu

The Master of Accountancy (MAcc) academically prepares students for a wide range of accounting-related careers, including public accounting, corporate accounting, internal auditing, accounting in not-for-profit organizations, and job opportunities with state and local government agencies such as the Internal Revenue Service, Defense Contract Audit Agency, FBI and others. The program is designed for students with little or no previous accounting background who have an undergraduate degree in any discipline, but it is not appropriate for students with an undergraduate degree in accounting. Course content is based largely on the published content specifications of the Uniform CPA Exam. Students who do well in this academic program and who also, upon completing the program, invest several hundred hours of study in a recognized CPA Exam review course, have a good to excellent chance of passing the CPA Exam. Also, the CPA Exam contains questions in areas other than accounting, including business law, economics, and finance, so students whose undergraduate coursework did not include these subjects should consider taking college level courses in these subject areas or depend upon coverage in a CPA Exam review course.

Program Learning Outcomes

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

- Measure, prepare, analyze, and report accounting information based on generally accepted accounting principles for businesses and for governmental and non-profit entities.
- Utilize current information technologies, methodologies, and systems, to plan, implement, execute, and analyze performance of the organization and its resources.
- Apply tax rules and regulations relating to individuals and business enterprises.
- Analyze cost and managerial accounting data and other qualitative information to prepare reports for external and internal decision-making.
- Utilize auditing principles and procedures applicable to business, governmental, and not-for-profit entities.
- Apply ethical and legal concepts to accounting and tax problems.

- Integrate the knowledge and skills acquired from the program to analyze and solve accounting related issues.
- Demonstrate effective communication of accounting information.

Degree Requirements:
(14 courses; 63 quarter units)

To receive a Master of Accountancy, students must complete at least 63 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 in graduate admission requirements for specific information regarding application and evaluation.

Core Requirements
(14 courses; 63 quarter units)

ACC 601M Foundations of Financial Acc
ACC 657 Accounting Information Systems
Prerequisite: ACC 601M
ACC 640M Acc for Gov't & NFP Entities
Prerequisite: ACC 601M
ACC 630M Cost Accounting
Prerequisite: ACC 601M
ACC 631M Advanced Managerial Accounting
Prerequisite: ACC 630M
ACC 610M Financial Accounting I
Prerequisite: ACC 601M
ACC 611M Financial Accounting II
Prerequisite: ACC 610M
ACC 612M Financial Accounting III
Prerequisite: ACC 611M
ACC 615M Advanced Financial Accounting
Prerequisite: ACC 612M
ACC 620M Taxation of Individuals
Prerequisite: ACC 615M
ACC 621M Taxation of Bus & Oth Entities
Prerequisite: ACC 620M
ACC 650M Auditing Principles
Prerequisite: ACC 621M
ACC 651M Auditing Procedures
Prerequisite: ACC 650M
ACC 695M Cases in Accounting & Auditing
Prerequisite: Completion of prior core requirements

School of Education

Programs Now Available Online

Associate of Arts with a Major in School Site Paraprofessional
Master of Science in Juvenile Justice Special Education

Modified Programs

■ MASTER OF ARTS IN TEACHING

Faculty Advisor: Dee Fabry; (858) 642-8381; dfabry@nu.edu

This modification is for candidates in Nevada only.

Candidates pursuing the Master of Arts in Teaching (MAT) degree must already hold a Nevada teaching license. The MAT degree is not a credentialing program and does not meet the standards of quality for licensure or endorsement in teaching in public education in Nevada. Please note that the Master of Arts in Teaching Program Learning Outcomes are aligned to the Interstate Teacher Assessment and Support Commission (InTASC) Standards for Nevada.

Four Specializations for the MAT degree have Nevada Department of Education approval:

- Specialization in Early Childhood Education
- Specialization in Educational Technology
- Specialization in National Board Certified Teacher Leadership
- Specialization in Reading

■ MASTER OF SCIENCE IN EDUCATIONAL ADMINISTRATION WITH PRELIMINARY ADMINISTRATIVE SERVICES CREDENTIAL

Faculty Advisor: David Kurth; (909) 806-3313; dkurth@nu.edu

This program is designed for students who are committed to improving education and who are interested in advancing their careers by becoming school site or district administrators. It can be completed with or without a preliminary credential option for those pursuing a career in the nonpublic education sector.

For students who want to pursue the credential option:
Please see additional Credential requirements listed at the end of this Educational Administration and School Counseling/ Psychology Department section of the catalog.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Create a vision of learning that is shared and supported by the school community.
- Develop a school culture conducive to student learning and staff professional growth.
- Analyze the organization, operations, and resources necessary to foster a safe, efficient, and effective learning environment.
- Design a system of collaboration that includes families and community members, and responds to diverse community interests and needs, and mobilizes community resources.
- Analyze aspects of professional and personal ethics that are conducive to leading a school or school system.
- Analyze the larger political, social, economic, legal, and cultural context that impacts a school or school district.
- Critically analyze a topic related to educational leadership through the lens of a researcher.

- Evaluate leadership within the lens of ethics and philosophy.
- Analyze innovative school models in the context of their ability to impact student learning.

Degree Requirements

To receive a Master of Science in Educational Administration, students must complete at least 45 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 if the units were not used in earning another advanced degree. Course equivalence cannot be granted for life experience.

Core Requirements
(10 courses; 45 quarter units)

EDA 614 Introduction to Leadership
EDA 623 Instructional Leadership
EDA 619 School Resource Management
EDA 626 Community & Diversity
EDA 624 Supervision of Instruction
EDA 618 School Law and Policy
EDA 651 Ethics & Philosophy of Leaders
EDA 620B Degree Field Experience
Prerequisite: Students must have completed at least 3 of the following courses:, EDA 623, EDA 624, EDA 614, EDA 626, EDA 618, EDA 619

or

EDA 620C Degree Field Experience
Prerequisite: Students must have completed at least 3 of the following courses: EDA 623, and/or EDA 624, and/or EDA 614, and/or EDA 626, and/or EDA 618, and/or EDA 619

or

EDA 620I Intern Field Experience
Prerequisite: May only be taken by students approved for the internship program.
ILD 625 Educational Research

Choose one of the following:
EDA 637 Action Research
Prerequisite: ILD 625

or

EDA 694 Thesis
Prerequisite: ILD 625 and an undergraduate or graduate statistics course. Students must have written permission of lead faculty to enroll in the course.

■ PRELIMINARY ADMINISTRATIVE SERVICES CREDENTIAL

Faculty Advisor: Glenn Sewell; (209) 475-1442; gsewell@nu.edu

This program is designed for students who are committed to improving education and who want to advance their careers by becoming public school administrators. Please see additional Credential requirements listed at the end of this Educational Administration and School Counseling/Psychology Department section of the catalog.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Create a vision of learning that is shared and supported by the school community.
- Develop a school culture conducive to student learning and staff professional growth.
- Analyze the organization, operations, and resources necessary to foster a safe, efficient, and effective learning environment.
- Design a system of collaboration that includes families and community members, and responds to diverse community interests and needs, and mobilizes community resources.
- Evaluate aspects of professional and personal ethics that are conducive to leading a school or school system.
- Analyze the larger political, social, economic, legal, and cultural context that impacts a school or school district.

Core Requirements
(8 courses; 36 quarter units)

All courses, with the exception of field experience EDA 620B, are scheduled by an admissions advisor.

EDA 614 Introduction to Leadership
EDA 623 Instructional Leadership
EDA 619 School Resource Management
EDA 626 Community & Diversity
EDA 624 Supervision of Instruction
EDA 618 School Law and Policy
EDA 651 Ethics & Philosophy of Leaders
EDA 620B Degree Field Experience
Prerequisite: Students must have completed at least 3 of the following courses:, EDA 623, EDA 624, EDA 614, EDA 626, EDA 618, EDA 619

or

EDA 620I Intern Field Experience
Prerequisite: May only be taken by students approved for the internship program.

New Programs

■ CLEAR MULTIPLE OR SINGLE SUBJECT CREDENTIAL (CALIFORNIA)

Faculty Advisor: Donna Elder; (310) 662-2142; delder@nu.edu

This program links the California Preliminary Credential to the experiences during and reflections upon the first years of teaching. Candidates eligible for this program must be under contract with a school district and hold a preliminary single or multiple subject credential. Candidates will apply content standards and curriculum frameworks to assess, plan and deliver differentiated instruction to diverse student populations. The effective use of technology in the classroom will also be addressed. Candidate will demonstrate their proficiency via an e-Portfolio project.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Utilize content standards, curriculum frameworks and instructional materials to plan and deliver appropriate instruction for all students.
- Incorporate student data from multiple measures (including those for English learners and special populations) to inform instruction.
- Plan and deliver instruction using multi-tiered interventions.
- Create well-managed, equitable and inclusive learning environments.
- Use technology for a variety of purposes including communication and collaboration as well as assessing, planning and delivering instruction.
- Adhere to professional, legal and ethical obligations including district policies.

Degree Requirements

The five course program begins with a course where candidates reflect upon their initial preparation program, their TPA feedback and their current teaching situation. Based upon that, they complete a self-assessment based upon the California Standards for the Teaching Profession. This information will help determine which 3 of the 4 elective courses are to be taken. The final course is a 1.5 unit Clear Credential e-Portfolio course where professional growth is documented.

Core Requirements

(5 courses, 19.5 quarter units)

TED 680 Dev as a Professional Educator
Prerequisite: California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position

Choose 3 of the following 4 courses:

TED 682 Instructional Technology
Prerequisite: TED 680 California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position.

TED 684 Using Standards and Frameworks
Prerequisite: TED 680 California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position and

TED 686 Assessment and Instruction
Prerequisite: TED 680 Full-time teaching position in a public, charter or private school. A long-term substitute position may be used but needs pre-approval.

TED 688 Meeting Needs of All Learners
Prerequisite: TED 680 Full-time teaching position in a public, charter or private school. A long-term substitute position may be used but needs pre-approval.

and

TED 699 Clear Credential e-Portfolio (1.5 quarter units)
Prerequisite: TED 680 satisfactory completion of three of the four elective courses as well as a full-time teaching position in a P-12 school or a pre-approved long term substitute position

■ MASTER OF SCIENCE IN HIGHER EDUCATION ADMINISTRATION

Faculty Advisor: Joseph Marron; (858) 642-8320; soe@nu.edu

The Program is designed to provide candidates with the knowledge and skills necessary for leadership positions in institutions of Higher Education. Candidates will learn to apply sound educational theory, leadership and strategic management techniques in the planning, evaluation and implementation of instructional programs and student services. Candidates will learn strategies for managing and implementing change in the dynamic higher education environment. Developing and maintaining positive community relationships and addressing diverse community needs and interests will be addressed, along with financial management and case law pertinent to higher education.

Program Learning Outcomes

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

- Analyze sound educational philosophy, theory and practice to managing change, policy and governance, strategic planning and analysis and curriculum and instruction in higher education.
- Appraise change strategies, including understanding complex human phenomena such as resistance and anxiety.
- Evaluate current higher education policy in the context of its possible impact on the future of colleges and universities.
- Examine the impact community relations have on institutions of higher learning.
- Interpret major legal issues that impact higher education today and will impact higher education in the future.
- Examine resource management in higher education settings.
- Analyze strategic planning and evaluation strategies and data in the context of student, programmatic assessment, and operational needs.
- Analyze various curriculum models and methods of instruction in the contexts of various delivery modes.

Degree Requirements

To receive a Master of Science in Higher Education Administration, students must complete at least 45 quarter units of graduate work. A total of 9 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and if the units were not used in earning another advanced degree and provided the coursework was completed within the past 7 years. Course equivalence cannot be granted for life experience. Please refer to the graduate information section of the University catalog for admission and evaluation.

Core Requirements

(10 courses; 45 quarter units)

EDA 640 Introduction to H.E. Admin.

EDA 641 Leading and Managing Change
Prerequisite: EDA 640

EDA 642 Policy & Accountability
Prerequisite: EDA 640

EDA 643 Community Development in HE
Prerequisite: EDA 640

EDA 644 Higher Education Law/Politics
Prerequisite: EDA 640

EDA 645 Managing Finances & Operations
Prerequisite: EDA 640

EDA 646 Strategic Planning & Analysis
Prerequisite: EDA 640

EDA 647 Curriculum & Instruction in HE
Prerequisite: EDA 640

ILD 625 Educational Research

EDA 694 Thesis
Prerequisite: ILD 625 and an undergraduate or graduate statistics course. Students must have written permission of lead faculty to enroll in the course.

■ MASTER OF SCIENCE IN INNOVATIVE SCHOOL LEADERSHIP

Faculty Advisor: Rollin Nordgren; (858) 642-8144; rnordgren@nu.edu

This is an interdisciplinary program between the School of Education and the School of Business and Management designed for students who are committed to leading innovation and positive change within educational systems as a school site or district administrator. Candidates will learn techniques for applying sound business and decision making processes in managing complex problems associated with implementing change. Models for developing trust and respect within diverse groups while leading and managing new initiatives will be presented. Students will be able to analyze group dynamics to create supportive environments where students and teachers can be successful. An electronic portfolio will be used to demonstrate student achievement of Program Learning Outcomes.

Program Learning Outcomes

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

- Analyze complex human phenomena such as resistance and anxiety and the ability to lead others in a process through the change process.
- Examine diversity and pluralism in the United States (of students, community, and faculty) in order to develop the cultural competence and be able to work well in diverse, rural and urban environments.
- Analyze decision making frameworks in order to surface and develop ethical leadership and improve decision making skills.
- Develop team building and understand organizational dynamics including the use of the learning organization processes.
- Apply advanced negotiation and conflict resolution strategies to further an organization.
- Explore innovative financial models and gain competency in information management fundamentals.
- Explore community leadership, outreach and partnerships.
- Examine competencies for leadership in globalization including emerging and future trends for business and education.
- Analyze innovative school models, including charter schools, to ensure student success and organizational sustainability.

Degree Requirements

To receive a Master of Science in Innovative School Leadership, students must complete at least 49.5 quarter units of graduate work. A total of 9 quarter units of graduate credit may be granted for equivalent graduate work completed at another institution, as it applies to this degree and if the units were not used in earning another advanced degree and provided the coursework was completed within the past 7 years. Course equivalence cannot be granted for life experience. Please refer to the graduate information section of the University catalog for admission and evaluation. The culminating project will be the completion of a Portfolio that will consist of key assignments/assessments from all 11 courses; assignments/assessments will be a blend of theory and practice. The portfolio will be comprised of one key assignment and/or artifact from each course accompanied by a student reflection. The assignments/artifacts will be selected by the candidate. Candidates must present the portfolio to designated faculty as the capstone for the program.

Core Requirements

(11 courses; 49.5 quarter units)

ISL 661	Leadership Global Seminar
LED 602	Developing Groups and Teams
LED 604	Leading Change and Adaptation
ISL 662	Decision Making Organizations *Prerequisite: ISL 661*
EDA 623	Instructional Leadership
EDA 624	Supervision of Instruction
EDA 618	School Law and Ethics
ISL 660	Financial and Information Mgt *Prerequisite: ISL 661*
LED 605	Negotiation/Conflict Resolutio
EDA 680	Charter School Leadership
EDA 663	Community Leadership *Prerequisite: ISL 661, LED 602, LED 604, ISL 662, EDA 623, EDA 624, EDA 618, ISL 660, LED 605, EDA 680*

School of Engineering, Technology and Media

Programs Now Available Online

Associate of Arts with a Major in Engineering Technology

Modified Programs

■ ASSOCIATE OF ARTS
◆ MAJOR IN DIGITAL MEDIA DESIGN

Faculty Advisor: James Jaurez; (858) 309-3458; jjaurez@nu.edu

The AA in Digital Media Design will prepare students to begin work in media technology related professions such as graphic design, web design, video editing, and 3D art. Students are commissioned to work on individual and team projects in a number of media technologies and art theory. The program culminates in a design and development of an individual representative professional project and gives the students the necessary skills to enter into the digital media field.

Program Learning Outcomes

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

- Employ digital tools in the production of still images and interactive design elements.
- Explain professional and ethical issues related to media production and distribution.
- Discuss industry terminology and current technology through team collaborations and class presentations.
- Design digital projects that apply 2D, 3D, and time-based principles and techniques.
- Examine the digital media production process from storyboard to prototype.
- Create a digital portfolio that includes planning, development and presentation.

Degree Requirements

To receive an Associate of Arts in Digital Media Design degree, students must complete at least 90 quarter units, 31.5 of which must be completed at National University. All students must complete the coursework below and the required general education for the Associate degree. In the absence of transfer credit students may need to take open electives to meet the overall unit requirement for the degree.

Students are urged to meet English and Mathematics requirements as early as possible in their coursework to gain the fundamental skills necessary for success in their college studies. Refer to the section on undergraduate admissions procedures for specific information regarding application and placement evaluations.

Prerequisites for the Major

(4 courses; 15 quarter units)

ENG 100*	Effective College English I (3 quarter units) *Prerequisite: Satisfactory performance on Accuplacer*
ENG 101*	Effective College English II (3 quarter units) *Prerequisite: ENG 100*
COM 220*	Media Literacy
COM 100*	Intro to Mass Communication
or	
COM 103*	Public Speaking

* May be used to meet a General Education requirement

Requirements for the Major
(7 courses; 31.5 quarter units)

MUL 200	Communication Tools *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 205	Principles of Graphic Design *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 245	Principles of Web Design *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 255	Interactive Design *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 265	Digital Audio and Video *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 275	3-D Modeling and Rendering *Prerequisite: ENG 100, ENG 101, and COM 100, or COM 103*
MUL 295	Professional Project *Prerequisite: MUL 200, MUL 205, MUL 245, MUL 255, MUL 265, MUL 275*

■ ASSOCIATE OF SCIENCE
◆ MAJOR IN ENGINEERING TECHNOLOGY

Faculty Advisor: Peilin Fu; (858) 309-3432; pfu@nu.edu

The growing importance of technology in fields ranging from environmental to medical, and from product development to manufacturing, requires trained engineering technology professionals to design, maintain, troubleshoot, and repair equipment and systems. The Associate of Science in Engineering Technology program prepares students to pursue opportunities in a wide range of industries including manufacturing, hospitals, laboratories, government, and many other industrial sectors. This program provides the student with broad, basic skills in electronics, computer aided design, computer programming and networks, test and measurement, mathematics, and communication. Focus is on the practical and useful application of fundamental engineering tools and techniques, and will prepare students for careers such as:

- Test engineering technician
- Field engineering technician
- Production engineering technician
- Design engineering technician

Program Learning Outcomes

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

- Use math, science, engineering, and technology to solve technology problems.
- Apply analog and digital electronics, computer networks, programming and software tools to the building, testing and operation of engineering systems.
- Demonstrate laboratory skills, including the use of appropriate hardware, software, and simulation techniques.
- Communicate through written, verbal, and graphical media.
- Apply ethical standards in professional decision-making.
- Function effectively as a member of a technical team.

Degree Requirements:

To receive a Associate of Science in Engineering Technology, students must complete at least 96 quarter units, 31.5 of which must be taken in residence at National University. All Associate degree students must complete the university general education requirements. In the absence of transfer credit students may need to take additional electives to fulfill overall unit requirements.

Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation.

Prerequisites for the Major
(8 courses; 27 quarter units)

ENG 100*	Effective College English I (3 quarter units) *Prerequisite: Satisfactory performance on Accuplacer*
ENG 101*	Effective College English II (3 quarter units) *Prerequisite: ENG 100*
MTH 215*	College Algebra & Trigonometry *Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B*
CSC 242	Intro to Programming Concepts *Prerequisite: CSC 200, and CSC 208*
PHS 104*	Introductory Physics *Prerequisite: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, and MTH 216B*
PHS 104A*	Introductory Physics Lab (1.5 quarter units) *Prerequisite: PHS 104, or PHS 171 for science majors*
CHE 101*	Introductory Chemistry Recommended Preparation: MTH 204, or MTH 215, or MTH 216A, and MTH 216B
CHE 101A*	Introductory Chemistry Lab (1.5 quarter units) *Prerequisite: CHE 101, or CHE 141 for science majors*

* May be used to meet a General Education requirement

Requirements for the Major
(14 courses, 54 quarter units)

EGR 219	Intro to Graphics and Auto CAD *Prerequisite: MTH 215*
EGR 220	Engineering Mathematics *Prerequisite: MTH 215*
EGR 230	Electrical Circuits & Systems *Prerequisite: MTH 215*
EGR 320	Scientific Problem Solving *Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C*
EGR 320L	Scientific Problem Solving-LAB (1.5 quarter units) *Prerequisite: EGR 320 with a minimum grade of C, or CSC 208*
ITM 230	Computer Network Overview
CSC 220	Applied Probability & Stats. *Prerequisite: MTH 215*
EGR 225	Statics & Strength of Material *Prerequisite: EGR 220*
EGR 240	Electronic Circuits *Prerequisite: EGR 230, Corequisite: EGR 240L*
EGR 240L	Electronic Circuits Lab (1.5 quarter units) *Corequisite: EGR 240*
CSC 340	Digital Logic Design *Prerequisite: CSC 200, CSC 208*
CSC 340L	Digital Logic Design Lab (1.5 quarter units) *Corequisite: CSC 340*
CSC 252	Programming in C++ *Prerequisite: CSC 242*
or	
CSC 262	Programming in JAVA *Prerequisite: MTH 215*
DEN 308	Computer Aided Engineering I *Prerequisite: EGR 219*

■ BACHELOR OF ARTS
◆ MAJOR IN DIGITAL MEDIA DESIGN

Faculty Advisor: James Jaurez; (858) 309- 3458; jjaurez@nu.edu

The Bachelor of Arts in Digital Media Design consists of courses that prepare the student for a broad range of positions requiring a background in digital entertainment and interactive design,

multimedia and game production. Students learn and apply theory and practice for producing digital media with a focus on creating original works. Successful completion of the program will enable graduates to compete for employment because they possess a relevant combination of skills and knowledge vital to today's workplace. Positions in the fields of gaming, video and multimedia production, motion graphics and design include Art Director, Web Designer, Game Designer, Video Editor, Project Manager and Multimedia Specialist.

Program Learning Outcomes

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

- Develop a personal vision in the creation of original multimedia content.
- Apply the principles of graphic and information design in the generation of digital media projects.
- Examine current trends and key technologies in the media industry.
- Demonstrate oral, visual, and written communication skills with clients, project managers, and media production team members.
- Describe and implement the phases of media production, from the initial planning to the final delivery of a professional product.
- Explain the legal and ethical issues related to media production and distribution.
- Create active and interactive content with graphics, animation, sound and video using media authoring software.

Degree Requirements

To receive a Bachelor of Arts degree with a Major in Digital Media Design, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, and 76.5 of which must be completed at the upper-division level. The following courses are specific degree requirements. In the absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree.

Preparation for the Major

(2 courses; 9 quarter units)

COM 100* Intro to Mass Communication
or
COM 103* Public Speaking
and
COM 220* Media Literacy
* May be used to meet a General Education requirement

Requirements for the Major

(16 courses; 72 quarter units)

MUL 300 Convergence Media
Prerequisite: COM 100, or COM 103, and COM 220
BRO 305 Media Storytelling
Prerequisite: ENG 100, and ENG 101, and COM 100, or COM 103, or COM 220
MUL 305 Graphic Design and Artistry
Prerequisite: COM 100, or COM 103, and COM 220
MUL 309 Camera and Image
Prerequisite: COM 100, or COM 103, and COM 220
MUL 365 Digital Video Editing
Prerequisite: MUL 265 or equivalent.
MUL 461 Motion Graphics
Prerequisite: COM 100, or COM 103, and COM 220
MUL 345 Applied Web Design
Prerequisite: COM 100, and COM 103, or COM 220
MUL 370 Digital Interactivity
Prerequisite: COM 100, and COM 103, or COM 220
MUL 315 Video Game Design
Prerequisite: COM 100, and COM 103, or COM 220
MUL 355 Game Scripting
Prerequisite: COM 100, and COM 103, or COM 220
MUL 375 3-D Modeling for Game Art
Prerequisite: COM 100, or COM 103, and COM 220
MUL 462 Digital Audio Creation
Prerequisite: COM 100, or COM 103, and COM 220
MUL 399 Emerging Technologies
Prerequisite: COM 100, or COM 103, and COM 220
MUL 445 Digital Project Management
Prerequisite: COM 100, or COM 103, and COM 220
MUL 430 Advanced Design Project
Prerequisite: COM 100, or COM 103, and COM 220
MUL 471 Adv Digital Interactivity Proj
Prerequisite: COM 100, or COM 103, and COM 220

Capstone Core Course

(1 course; 4.5 quarter units)

MUL 420** Multimedia Arts Portfolio Proj
Prerequisite: All general core courses and concentration courses.
** This is a two-month long class occurring after concentration courses

■ BACHELOR OF SCIENCE
◆ MAJOR IN BIOMEDICAL ENGINEERING TECHNOLOGY

Faculty Advisor: Peilin Fu; (858) 309-3432; pfu@nu.edu

The impact of modern electronics technology in the growing field of medical instrumentation and device area mandates the needs for trained engineering technology professionals, to design, maintain, troubleshoot, and repair medical instruments and devices. This biomedical engineering technology program will cover areas such as electronic circuit design and analysis, digital circuits including microprocessors, medical devices and instrumentation, medical imaging, sensors, safety and compliance in healthcare, as well as such important skills as project management and team building.

This program provides the student with knowledge and skills to function as medical instrumentation technologist/engineer. Students will gain an in-depth understanding of human anatomy, sensing and monitoring principles, and instrumentation and device operation. Graduates of this degree program will find opportunities in manufacturing, hospitals, laboratories, government, and many other industrial sectors. This program will prepare students for the entry level jobs such as:

- Test engineer
- Field engineer
- Production engineer
- Design engineer
- Quality engineer
- Sales engineer

Program Learning Outcomes

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

- Analyze and maintain analog and digital sensors, medical devices and other biomedical systems.
- Utilize math, science, engineering, and technology to solve biomedical technology problems.
- Apply laboratory skills, including the use of appropriate hardware, software, simulation techniques, and data analysis in support of biomedical systems.

- Employ creativity in the design and implementation of components and/or systems relevant to biomedical systems.
- Design and manage projects, and function effectively as a member of a technical team.
- Demonstrate a recognition of the need for, and an ability to engage in lifelong learning.
- Communicate through written, verbal, and graphical media.
- Demonstrate awareness of professional, ethical and global issues in a diverse society.
- Apply professional standards in decision-making.

Degree Requirements

To receive a Bachelor Science in Engineering Technology, students must complete at least 187.5 quarter units, 76.5 of which must be completed at the upper-division level and 45 of which must be taken in residence, including the research project classes. All Bachelor degree students must complete the university general education requirements. 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.

Prerequisites for the Major

(23 courses; 88.5 quarter units)

PHS 104* Introductory Physics
Prerequisite: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, and MTH 216B

PHS 104A* Introductory Physics Lab (1.5 quarter units)
Prerequisite: PHS 104, or PHS 171 for science majors

CHE 101* Introductory Chemistry
Recommended Preparation: MTH 204, or MTH 215, or MTH 216A, and MTH 216B

CHE 101A* Introductory Chemistry Lab (1.5 quarter units)
Prerequisite: CHE 101, or CHE 141 for science majors

ITM 230 Computer Network Overview

CSC 220 Applied Probability & Stats.
Prerequisite: MTH 215

CSC 242 Intro to Programming Concepts
Prerequisite: CSC 200, and CSC 208

CSC 252 Programming in C++
Prerequisite: CSC 242

or

CSC 262 Programming in JAVA
Prerequisite: MTH 215

CSC 340 Digital Logic Design
Prerequisite: CSC 200, CSC 208

CSC 340L Digital Logic Design Lab (1.5 quarter units)
Corequisite: CSC 340

EGR 219 Intro to Graphics and Auto CAD
Prerequisite: MTH 215

EGR 220 Engineering Mathematics
Prerequisite: MTH 215

EGR 225 Statics & Strength of Material
Prerequisite: EGR 220

EGR 230 Electrical Circuits & Systems
Prerequisite: MTH 215

EGR 240 Electronic Circuits
Prerequisite: EGR 230, Corequisite: EGR 240L

EGR 240L Electronic Circuits Lab (1.5 quarter units)
Corequisite: EGR 240

EGR 320 Scientific Problem Solving
Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C

EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C, or CSC 208

DEN 308 Computer Aided Engineering I
Prerequisite: EGR 219

CSC 208* Calculus for Comp. Science I
Prerequisite: MTH 215

BIO 380 Human Biology for Teachers
Recommended Preparation: BIO 161, and BIO 162, and Prerequisite: BIO 163, BIO 100A

ENG 334A* Technical Writing
Prerequisite: ENG 100, and ENG 101, (Only Business and Engineering majors may fulfill the requirement by taking ENG 334A)

MTH 215* College Algebra & Trigonometry
Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B

* May be used to meet a General Education requirement

Requirements for the Major

(13 courses, 49.5 quarter units)

EGR 310 Engineering Economics
Prerequisite: MTH 215

EGR 324 Linear Systems and Signals
Prerequisite: CSC 208, or MTH 220, EGR 230

EGR 324L Linear Systems and Signals Lab (1.5 quarter units)
Corequisite: EGR 324

EGR 340 Embedded Systems

EGR 340L Embedded Systems Lab (1.5 quarter units)
Corequisite: EGR 340

DEN 423 Human Factors in Engineering
Prerequisite: MTH 215

EGR 440 Project Management Fundamental

DEN 432 Concurrent Design Engineering
Prerequisite: MTH 210, EGR 307

BET 401 Medical Devices I
Prerequisite: EGR 240, EGR 324, EGR 340

BET 401L Medical Devices I Lab (1.5 quarter units)
Corequisite: BET 401

BET 402 Medical Devices II
Prerequisite: BET 401, BET 401L

BET 403 Medical Imaging Technology
Prerequisite: BET 401, BET 402

BET 404 Medical Device Compliance

Capstone Project

(2 courses; 9 quarter units)

EGR 496A Senior Capstone Project I
Prerequisite: EGR 440 and satisfactory completion of courses as specified by Lead faculty

EGR 496B Senior Capstone Project II
Prerequisite: EGR 496A

■ BACHELOR OF SCIENCE
◆ MAJOR IN COMPUTER SCIENCE

Faculty Advisor: Alireza Farahani; (858) 309-3438; afarahan@nu.edu

The Bachelor of Science in Computer Science degree program provides a strong technical background for students planning to begin careers upon graduation and for those interested in graduate study in computer science. Degree requirements include courses in object oriented programming, data structures and algorithms, operating systems, computer communication networks, software engineering, and computer architecture, as well as mathematics, statistics, and the natural sciences. The program features a rigorous academic foundation that is complemented by realistic programming assignments. Emphasis is placed on developing both the technical and design skills necessary to begin and enhance an individual's career. Graduates of this program are well prepared for immediate employment in either the computer industry or many other businesses that increasingly rely on computer science.

Bachelor of Science in Computer Science/Master of Science in Computer Science (BSCS/MSCS) Transition Program

Students must complete graduate-level coursework taken as part of the BSCS 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 MSCS program within six months after completing their final BSCS course. Students must complete their MSCS program within four years with no break exceeding 12 months. Students in the BSCS transition program may take up to two MSCS classes as electives during the BSCS. Students may choose from the following courses: SEN 601, SEN 602, DAT 604, CSC 606, and CSC 607. The number of courses required to earn an MSCS degree for transition program students is reduced from 12 to as few as 10 courses.

Program Learning Outcomes

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

- Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling, design and optimization of computer-based systems.
- Analyze a problem and design the computing requirements appropriate to its solution.
- Implement and evaluate a computer-based system, process, component, or program to meet objectives.
- Discuss the impact of computing on individuals, organizations, and society, including ethical, legal, security, and global policy issues.
- Use current techniques, skills, and tools necessary for computing practice that supports the recognized need for continual professional development.
- Apply design and development principles in the construction of software systems.
- Function effectively on teams to accomplish a common goal.
- Demonstrate written and oral communication skills expected of a computer science professional.

Degree Requirements

To receive a Bachelor of Science in Computer Science, students must complete at least 180 quarter units. 76.5 quarter units must be completed at the upper-division level, and 45, including the senior project courses (CSC 480A and CSC 480B), 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.

Prerequisites for the Major

(12 courses; 48 quarter units)

Students must select two science related courses with labs from Area F of the General Education for a total of 12 quarter units.

Students must select an additional math or a science course from Area B or Area F of General Education excluding MTH 210 and MTH 215 and without duplicating any of the program courses.

MTH 215* College Algebra & Trigonometry
Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B

CSC 208* Calculus for Comp. Science I
Prerequisite: MTH 215

CSC 209 Calculus for Comp. Science II
Prerequisite: CSC 208

CSC 220 Applied Probability & Stats.
Prerequisite: MTH 215

CSC 242* Intro to Programming Concepts
Prerequisite: CSC 208

CSC 252* Programming in C++
Prerequisite: CSC 242

CSC 262* Programming in JAVA
Prerequisite: MTH 215

* May be used to meet a General Education requirement

Requirements for the Major

(17 courses; 70.5 quarter units)

CSC 300 Object Oriented Design
Prerequisite: CSC 252

CSC 310 Linear Algebra and Matrix Comp
Prerequisite: CSC 300

EGR 320 Scientific Problem Solving
Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C

EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C or CSC 208

CSC 331 Discrete Structures and Logic
Prerequisite: CSC 252

CSC 335 Data Structures and Algorithms
Prerequisite: CSC 300, CSC 331

CSC 338 Algorithm Design
Prerequisite: CSC 335

CSC 340 Digital Logic Design
Prerequisite: CSC 208 ie EGR 220

CSC 340L Digital Logic Design Lab (1.5 quarter units)
Corequisite: CSC 340

CSC 342 Computer Architecture
Prerequisite: CSC 340, and CSC 340L

CSC 350 Computer Ethics

CSC 400 OS Theory and Design
Prerequisite: CSC 335

CSC 422 Database Design
Prerequisite: CSC 300

CSC 430 Programming Languages
Prerequisite: CSC 300

CSC 436 Comp. Communication Networks
Prerequisite: CSC 335

CSC 480A Computer Science Project I
Prerequisite: Completion of core courses.

CSC 480B Computer Science Project II
Prerequisite: CSC 480A

Approved Electives

(2 courses; 9 quarter units)

Students must complete two 400 level technical electives, these electives can be taken from either computer science or computer information systems programs without duplicating any of the core courses.

■ BACHELOR OF SCIENCE
◆ MAJOR IN CONSTRUCTION ENGINEERING TECHNOLOGY

Faculty Advisor: Shekar Viswanathan; (858) 309-3416; sviswana@nu.edu

The Construction Engineering Technology program provides students with a well rounded education in construction principles, and practices in preparation for a career in the construction

industry. Upon completion of this degree, students will be prepared for careers such as construction superintendent, field engineer, project manager, project coordinator, facilities engineer, cost estimator, CAD drafter, and quality and safety controller. Additionally, graduates of this program with experience, interest, and/or knowledge about specific construction trades, will be capable of performing in a large number of positions within those respective subcontracting firms.

Program Learning Outcomes

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

- Effectively communicate through written, verbal, and graphical media.
- Demonstrate knowledge of engineering science and mathematics and its application in problem solving.
- Analyze structural systems.
- Recognize ethical issues and apply professional standards in decision-making.
- Utilize appropriate computer tools for engineering problems.
- Apply modern methods for surveying and metrics.
- Exhibit a fundamental understanding of building mechanical and electrical systems.
- Demonstrate cost estimating and scheduling techniques.
- Integrate and apply field inspection techniques and safety standards.
- Apply the principles of project management and control.
- Work effectively in a team environment.

Degree Requirements

To receive a Bachelor of Science in Construction Engineering Technology, students must complete at least 180 quarter units, 76.5 of which must be completed at the upper-division level and 45 of which must be taken in residence, including the research 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.

Preparation for the Major

(10 courses; 39 quarter units)

CHE 101** Introductory Chemistry
Recommended Preparation: MTH 204, or MTH 215, or MTH 216A, and MTH 216B

CHE 101A** Introductory Chemistry Lab (1.5 quarter units)
Prerequisite: CHE 101, or CHE 141 for science majors

MTH 210* Probability and Statistics
Prerequisite: Placement evaluation

or

CSC 220 Applied Probability & Stats.
Prerequisite: MTH 215

PHS 104 * Introductory Physics
Prerequisite: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, and MTH 216B

PHS 104A* Introductory Physics Lab (1.5 quarter units)
Prerequisite: PHS 104, or PHS 171 for science majors

CSC 208* Calculus for Comp. Science I
Prerequisite: MTH 215

EGR 220 Engineering Mathematics
Prerequisite: MTH 215

EGR 225 Statics & Strength of Material
Prerequisite: EGR 220

EGR 230 Electrical Circuits & Systems
Prerequisite: MTH 215

EGR 219 Intro to Graphics and Auto CAD
Prerequisite: MTH 215

* May be used to meet a General Education requirement

Requirements for the Major

(16 courses; 69 quarter units)

EGR 320 Scientific Problem Solving
Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C

EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C, or CSC 208

EGR 310 Engineering Economics
Prerequisite: MTH 215

EGR 316 Legal Aspects of Engineering

DEN 308 Computer Aided Engineering I
Prerequisite: EGR 219

CEN 320 Surveying, Metrics and GIS
Prerequisite: EGR 219

CEN 323 Structural Analysis
Prerequisite: EGR 220, and EGR 225

CEN 410 Constr Materials and Methods
Prerequisite: MTH 215

CEN 413 Plans and Specifications
Prerequisite: EGR 219

CEN 416 Mech and Electrical Systems
Prerequisite: MTH 215

CEN 419 Est., Scheduling and Control
Prerequisite: CEN 410

CEN 420 Est., Scheduling & Control II
Prerequisite: CEN 419

CEN 422 Field Inspection and Safety
Prerequisite: CEN 410

EGR 440 Project Management Fundamental

Engineering Senior Project

EGR 486A Engineering Senior Project I
Prerequisite: Completion of 10 BSCET core courses.

EGR 486B Engineering Senior Project II
Prerequisite: EGR 486A

■ BACHELOR OF SCIENCE
◆ MAJOR IN MANUFACTURING DESIGN ENGINEERING

Faculty Advisor: Shekar Viswanathan; (858) 309-3416; sviswana@nu.edu

The Bachelor of Science in Manufacturing Design Engineering provides students with the theoretical foundations, hands-on experience, and teaming skills required for effective conceptual, logistical, developmental, and interdisciplinary design of complex engineering devices, product life cycles, and engineering systems through integration of state-of-the-art computer-aided tools, concurrent engineering standards, and simulation modeling techniques. Graduates of this program will have competency in the fundamentals of evolving automated manufacturing technology and provide the industry with a source for qualified graduates to apply engineering principles in the design of automated and computer integrated manufacturing systems.

Upon completion of this degree, students will be prepared to hold positions such as manufacturing system design engineer, design supervisor for engineering projects, and product design engineer. The program blends together professional components from the traditional engineering curricula with the practical aspects of programming applications, engineering project management standards, and simulation modeling techniques. It also combines knowledge and practices needed for professionals working on engineering projects that require innovative and interdisciplinary background, skills, and experience.

Program Learning Outcomes

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

- Combine knowledge and practices needed to work on engineering projects that require innovative and interdisciplinary skills Utilize product reliability and design optimization concepts in engineering applications.
- Apply state-of-the-art computer-aided engineering tools and engineering graphics techniques and methodologies.
- Integrate engineering project management standards for efficient and competitive design of engineering products and processes.
- Apply the concepts of engineering experiment design and analysis.
- Analyze human factors, ergonomics, and safety issues as part of the requirements for design of engineering
- systems, products, and services.
- Analyze a production problem and design and/or develop a manufacturing system.
- Develop oral and written communication skills appropriate for engineering professionals.
- Demonstrate global awareness and team skills needed in manufacturing design engineering.

Degree Requirements

To receive a Bachelor Science in Manufacturing Design Engineering, students must complete at least 180 quarter units, 76.5 of which must be completed at the upper-division level and 45 of which must be taken in residence, including the research 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.

Preparation for the Major

(10 courses; 39 quarter units)

CHE 101* Introductory Chemistry
Recommended Preparation: MTH 204, or MTH 215, or MTH 216A, and MTH 216B
CHE 101A* Introductory Chemistry Lab (1.5 quarter units)
Prerequisite: CHE 101, or CHE 141 for science majors
MTH 210* Probability and Statistics
Prerequisite: Placement evaluation
or
CSC 220 Applied Probability & Stats.
Prerequisite: MTH 215
PHS 104* Introductory Physics
Prerequisite: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, and MTH 216B
PHS 104A* Introductory Physics Lab (1.5 quarter units)
Prerequisite: PHS 104, or PHS 171 for science majors
CSC 208* Calculus for Comp. Science I
Prerequisite: MTH 215
EGR 220 Engineering Mathematics
Prerequisite: MTH 215
EGR 225 Statics & Strength of Material
Prerequisite: EGR 220
EGR 230 Electrical Circuits & Systems
Prerequisite: MTH 215
EGR 219 Intro to Graphics and Auto CAD
Prerequisite: MTH 215

* May be used to meet a General Education requirement

Requirements for the Major

(17 courses; 73.5 quarter units)

EGR 320 Scientific Problem Solving
Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C
EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C, or CSC 208
EGR 310 Engineering Economics
Prerequisite: MTH 215
EGR 316 Legal Aspects of Engineering
DEN 308 Computer Aided Engineering I
Prerequisite: EGR 219
DEN 411 Computer Aided Engineering II
Prerequisite: EGR 219
DEN 417 Computer Aided Engineering IV
Prerequisite: EGR 219
DEN 420 Computer Aided Engineering V
Prerequisite: EGR 219
DEN 422 Materials and Manufacturing
Prerequisite: EGR 225
DEN 423 Human Factors in Engineering
Prerequisite: MTH 215
DEN 426 Reliability Engineering
Prerequisite: MTH 215
DEN 429 Product Design Optimization
Prerequisite: MTH 215
DEN 432 Concurrent Design Engineering
Prerequisite: MTH 210, EGR 307
DEN 435 Design & Analysis of Experimen
EGR 440 Project Management Fundamental

Engineering Senior Project

EGR 496A Senior Capstone Project I
Prerequisite: EGR 440 and satisfactory completion of courses as specified by Lead faculty
EGR 496B Senior Capstone Project II
Prerequisite: EGR 496A

■ MASTER OF SCIENCE IN CYBER SECURITY AND INFORMATION ASSURANCE

Faculty Advisor: Ron Gonzales; (858) 309-3435; rgonzales@nu.edu

Course CYB 611 is replaced with CYB 608 in the following specializations:

- Specialization in Health Information Assurance
- Specialization in Computer Forensics
- Specialization in Information Assurance and Security Policy
- Specialization in Ethical Hacking & Pen Testing

■ UNDERGRADUATE CERTIFICATE IN CONSTRUCTION SAFETY AND INSPECTION

The Safety and Inspection certificate program provides an opportunity for students to obtain the essential skills for implementing and managing construction safety and quality programs through inspection. This certificate is specially focused for individuals with significant field experience, desiring a knowledge of management skills to perform field implementation of safety and quality through competent inspections. Students will complete courses to develop competency in the areas of electrical and construction systems, plans and project scheduling, estimating and control, inspection procedures and techniques, and management principles.

Prerequisites for the Certificate

(6 courses; 24 quarter units)

EGR 320 Scientific Problem Solving
Prerequisite: EGR 220 with a minimum grade of C, or CSC 208 with a minimum grade of C
EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C, or CSC 208

EGR 230	Electrical Circuits & Systems *Prerequisite: MTH 215*
EGR 219	Intro to Graphics and Auto CAD *Prerequisite: MTH 215*
CEN 410	Constr Materials and Methods *Prerequisite: MTH 215*
CEN 413	Plans and Specifications *Prerequisite: EGR 219*

Requirements for the Certificate
(4 courses; 18 quarter units)

CEN 416	Mech and Electrical Systems *Prerequisite: MTH 215*
CEN 419	Est., Scheduling and Control *Prerequisite: CEN 410*
CEN 422	Field Inspection and Safety *Prerequisite: CEN 410*
EGR 440	Project Management Fundamental

Courses taken for this certificate program may be applied to other certificate programs, as well as a degree program, where applicable. Additionally, some of the prerequisite courses have credit/challenge by exams available to students who have acquired the content knowledge of the required prerequisite coursework in a nonacademic format. Please contact the Lead Faculty for more information.

School of Health and Human Services

Programs Now Available Online

Associate of Science with a Major in Health Informatics
Bachelor of Science with a Major in Healthcare Administration
Master of Public Health

Terminated Programs

Associate of Science in Nursing – Nevada

Modified Programs

■ BACHELOR OF SCIENCE
◆ MAJOR IN ALLIED HEALTH

Faculty Advisor: Patric Schiltz; (858) 309-3476; pschiltz@nu.edu

The allied health profession refers to occupations that support, aid and increase the efficiency of the physician, dentist, or primary health care specialist. Allied health professionals are involved with the delivery of health or related services pertaining to the identification, evaluation, and prevention of diseases and disorders; dietary and nutrition services; rehabilitation and health systems management. The Bachelor of Science, Major in Allied Health degree program provides a broad-based foundation in global and national healthcare issues and trends, ethical and legal issues, health promotion and disease prevention, evidence-based practice, allied healthcare research, healthcare systems management, and healthcare based informatics. The program is designed to articulate with Associate of Arts allied health related degree programs at community colleges. It prepares graduates with additional knowledge, skills, and values to advance in the allied health profession; meet societal and health care delivery demands; and work in a variety of settings with diverse patients, families, and communities. Graduates are prepared to assume supervisory, management, and/or educational positions. In addition, successful completion of this program allows students to pursue graduate education in the healthcare field.

Program Learning Outcomes

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

- Assess the relative health effects of environment, socioeconomic conditions, behavior, health services, and biology.
- Explain how a team approach that is coordinated, comprehensive and continuous facilitates successful treatment outcomes.
- Compare and contrast a medical model of healthcare delivery with a health promotion and disease prevention approach.
- Explain the process of active participation in healthcare from a provider, patient, family, and community perspective.
- Assess the impact of effective and ineffective applications of technology in health services.
- Analyze health services from social, workforce, financial, regulatory, technological, and organizational viewpoints
- Commit to a code of professional ethics when providing services to clients, families and communities under all circumstances.
- Utilize culturally competent strategies and practices that respect the cultural, social, religious, racial, and ethnic diversity of the patient and family regarding disease and their health.

Degree Requirements

To receive a Bachelor of Science degree with a Major in Allied Health, 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 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.

Requirements for the Major
(10 courses; 45 quarter units)

HSC 310	Issues & Trends in Healthcare
BST 322*	Intro to Biomedical Statistics
GER 310	Healthy Aging
HSC 400	Mgmt for Health Professionals
HSC 300	Legal/Ethical Issues & Hlth Pr
HSC 330	Health Education & Promotion
HSC 410	Informatics for Health Profs
HSC 420	Healthcare Research
HSC 430	Case and Outcomes Management
HSC 440	Allied Health Capstone Project *Prerequisite: Completion of the major requirements*

* May be used to meet a General Education requirement

Students may choose to complete 6 upper-division electives or the Concentration in Health Informatics.

Upper-Division Electives
(6 courses; 27 quarter units)

Students must complete a minimum of 27 quarter units (6 courses) of electives to fulfill the upper-division unit requirements for the Bachelor of Science in Allied Health.

The following are strongly recommended:

HTM 520	Health Information Exchange
HTM 552	EHR Meaningful Use
HTM 460	Health IT Virtual Simulation *Prerequisite: HSC 410 with a minimum grade of C*
COH 320	Chronic & Communicable Disease
COH 310	Culture and Health

COH 321	Health Behavior
BIO 408	Genetics and Heredity Recommended: Prior completion of: BIO 161, BIO 162, and BIO 163, BIO 100A, CHE 141, CHE 142, and CHE 143, CHE 101A
COM 303	Digital Literacy 2.0 *Prerequisite: ENG 100, ENG 101*
HCA 402	Intro to HA QA Management *Prerequisite: COH 100, COH 150, COH 310, COH 315, COH 320, COH 321, ACC 201, and ACC 202*
CIS 301	Mgmt Information Systems

● Concentration in Health Informatics

Faculty Advisor: Patric Schiltz; (858) 309-3476; pschiltz@nu.edu

The Health Informatics Concentration focuses on effective and innovative use of information and communication technologies in healthcare organizations. Graduates are prepared to advance their careers as entry level health informatics specialists in a healthcare profession, support informatics teams and communicate effectively with healthcare and technology professionals.

Program Learning Outcomes

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

- Describe the requirements, design usability, product selection and life cycle for the software system that supports the different clinical and administrative healthcare information and communication technologies.
- Communicate effectively with healthcare and information technology professionals and staff working in the healthcare ecosystem.
- Demonstrate the ability to effectively use clinical and administrative healthcare information and communication systems.
- Design the quality improvement in a healthcare organization following the implementation of information and communication technologies.

Students in the Health Informatics Concentration are required to complete six specialized courses in addition to the core major requirements for the BS with a Major in Allied Health.

Requirements for the Concentration

(6 courses; 27 quarter units)

CIS 301	Mgmt Information Systems
HTM 520	Health Information Exchange
HTM 552	EHR Meaningful Use
HTM 460	Health IT Virtual Simulation *Prerequisite: HSC 410 with a minimum grade of C*
COM 303	Digital Literacy 2.0 *Prerequisite: ENG 100, ENG 101*
HCA 402	Intro to HA QA Management Recommended: Prior completion of: all coursework in Preparation for the Major and HCA 400 (BSHA students).

■ BACHELOR OF SCIENCE
◆ MAJOR IN CLINICAL LABORATORY SCIENCE

Faculty Advisor: Philip Payne; (858) 309-3475; ppayne@nu.edu

The Bachelor of Science degree with a Major in Clinical Laboratory Science will provide the students an opportunity to complete their degree entirely online, at a pace that suits their needs. The program contains necessary prerequisites to make application to the Laboratory Field Services Branch of the California Department of Health for a trainee license. After successful completion of a 52 week CLS training program at a California approved training facility, the student can apply for the licensing examination for licensure as a Clinical Laboratory Scientist. Some graduates may choose to find employment in the clinical diagnostics/medical device industry, or pursue advanced degrees such as in Healthcare Management.

Program Learning Outcomes

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

- Assess clinical laboratory practice and procedure by applying the knowledge of technical skills and theory obtained.
- Identify problems in the clinical laboratory and establish a course of action to correct them.
- Distinguish among laboratory methods which use advanced analytical, immunological, microbiological, hematological, and molecular techniques.
- Evaluate laboratory procedure theory, methodology and results.
- Utilize critical thinking skills in Clinical Laboratory situations.
- Conduct research using primary literature sources.
- Produce written work of the standards required by employers in the industry or post graduate programs.

Degree Requirements

To receive the Bachelor of Science degree with a Major in Clinical Laboratory Science, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University and 76.5 of which must be completed at the upper-division level. Refer to the section on undergraduate admission procedures for specific information regarding admission and evaluation.

Requirements for the Major

(11 courses; 49.5 quarter units)

BST 322*	Intro to Biomedical Statistics
HSC 300	Legal/Ethical Issues & Hlth Pr
CLS 320	Clinical Lab Management
CLS 301	Clinical Biochemistry Recommended: Prior completion of: CHE 142
CLS 401	Quantitative Analysis Recommended: Prior completion of: CHE 142
CLS 305	Clinical Immunology Recommended: Prior completion of: CHE 101, BIO 161, BIO 203 or equivalent
CLS 315	Molecular Diagnostics Recommended: Prior completion of: BIO 162, and CHE 142
CLS 310	Clinical Virology Recommended: Prior completion of: CHE 101, BIO 161, BIO 203 or equivalent
CLS 405	Clinical Microbiology Recommended Preparation: CLS 301 with a minimum grade of B, CLS 305 with a minimum grade of B, CLS 315 with a minimum grade of B
CLS 410	Clinical Hematology Recommended Preparation: CLS 301 with a minimum grade of B, CLS 315 with a minimum grade of B, CLS 305 with a minimum grade of B
CLS 495	Clinical Lab Science Capstone *Prerequisite: Must have completed all required core classes.*

* May be used to meet a General Education requirement

Upper-Division Electives
(7 courses; 31.5 quarter units)

Students must complete a minimum of 31.5 quarter units of upper division electives to fulfill the upper-division unit requirements for the B.S. with a Major in Clinical Laboratory Science.

The following courses are strongly recommended:

CIS 301	Mgmt Information Systems
HSC 310	Issues & Trends in Healthcare
COM 354	Professional Presentations *Prerequisite: ENG 101, and COM 100, COM 103, or COM 220*
HSC 410	Informatics for Health Profs
HSC 400	Mgmt for Health Professionals
CIS 440	Systems Quality Assurance
CIS 480	Health Information Management
HSC 420	Healthcare Research

■ BACHELOR OF SCIENCE
◆ MAJOR IN PUBLIC HEALTH

Faculty Advisor: David Adesanya; (858) 309-3485; dadesanya@nu.edu

The Bachelor of Science in Public Health features a broad-based foundation in the liberal arts and sciences and an ecological perspective of public health and the role that public health professionals play in preventing disease while maintaining or increasing quality of life. Graduates of the program will possess an understanding of the contributions of core public health disciplines to the nation's health. At the same time, graduates will also learn how to apply knowledge and skills relating to the interactions and interdependencies of health behavior, the physical and social environment, and public policy to affect health at local, state, national and international levels.

The program is designed to prepare entry-level public health professionals to begin careers in a variety of health agencies: governmental health agencies, voluntary health agencies, community based/non-governmental agencies, medical care services, education agencies, and business and industry. Within these practice settings, entry-level public health practitioners address significant health challenges from individual, family, group, organization, neighborhood, community, and societal perspectives. Graduates will apply their competencies to assess needs, plan and implement prevention programs, assess program outcomes, communicate and advocate for public health issues, and participate in the development of public health as a profession. Graduates will also enhance their opportunities for professional growth and job placement through planned field practicum. Upon graduation, entry-level public health practitioners will be eligible to sit for the Certified Health Education Specialists exam (CHES) through the National Commission on Health Education Credentialing, Inc.

Background Checks

Agencies used by the School of Health and Human Services may require criminal background and/or drug screening prior to acceptance of a student into an internship or practicum. Students who do not pass the background check and/or drug test may be unable to attend the internship or practicum course and, therefore, may be unable to complete the program of study. Any fee or cost associated with background checks and/or drug testing is the responsibility of the student.

Program Learning Outcomes

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

- Explain the core principles of public health and their relationship to the health status of groups, communities, and populations at the local, state, national, and international levels.
- Describe behavioral and non-behavioral variables contributing to morbidity and mortality.
- Describe the contributions of health disparities to morbidity and mortality among specific groups, communities, and societies.
- Assess the need for health promotion programs in response to the characteristics of diverse communities of interest using primary and secondary data.
- Employ a variety of strategies to plan, implement, monitor and evaluate health promotion programs in a variety of settings to meet stated goals, objectives and established standards.
- Choose appropriate strategies and tactics to influence behavioral, environmental, and public policy change to address the health needs in a given community.
- Evaluate the progress and outcomes of prevention programs in meeting stated goals and objectives and established standards.
- Design a plan for lifelong learning incorporating high professional and ethical standards, leadership, and cultural competencies and their evolving role in society.

Degree Requirements

To receive a Bachelor of Science degree in Public Health, students must complete at least 180 quarter units as articulated below including the university general education requirements, 45 quarter units of which must be completed in residence at National University, 76.5 quarter units of which must be completed at the upper-division level. In the absence of transfer credit, additional general electives may be necessary to satisfy total units for the degree. Refer to the section on undergraduate admission requirements for specific information regarding admission and evaluation.

Preparation for the Major
(10 courses; 36 quarter units)

PSY 100*	Introduction to Psychology
SOC 100+	Principles of Sociology *Prerequisite: ENG 100, and ENG 101*
BST 322*	Intro to Biomedical Statistics
BIO 201*	Human Anatomy & Physiol I Recommended: Prior completion of: BIO 100, BIO 100A, CHE 101, CHE 101A or equivalent courses.
BIO 201A*	Human Anatomy & Physiol Lab I (1.5 quarter units) *Prerequisite: BIO 201*
BIO 202*	Human Anatomy & Physiol II Recommended: Prior completion of: BIO 201, and BIO 201A, BIO 100, and BIO 100A, CHE 101, and CHE 101A or equivalent courses
BIO 202A*	Human Anatomy & Physiol Lab II (1.5 quarter units) *Prerequisite: BIO 202*
BIO 203*	Introductory Microbiology Recommended: Prior completion of: BIO 201, and BIO 201A, BIO 202, and BIO 202A, BIO 100, and BIO 100A, CHE 101, and CHE 101A or equivalent courses
BIO 203A*	Introductory Microbiology Lab (1.5 quarter units) *Prerequisite: BIO 203*
COH 100	Personal Health

* May be used to meet a General Education requirement
+ Diversity Enriched Offering

Requirements for the Major
(19 courses; 85.5 quarter units)

COH 300	The Ecology of Public Health *Prerequisite: COH 100, COH 310, and COH 320*
COH 310	Culture and Health
COH 315	Introduction to Epidemiology *Prerequisite: BST 322**

COH 320	Chronic & Communicable Disease
COH 321	Health Behavior
COH 380	HP Program Planning & Eval *Prerequisite: COH 300, COH 315, COH 400, and HSC 410*
COH 400	Environmental Health
COH 401	Health Promotion Concepts *Prerequisite: COH 300, COH 315, COH 400, and HSC 410*
HSC 410	Informatics for Health Profs
COH 412	Injury Prevention
COH 416	PH & Physical Activity
COH 417	Public Health Nutrition
COH 418	Drug Use & Abuse
COH 419	Public Health & Sexuality
COH 422	Global Health Promotion
COH 430	HP Strategies & Tactics *Prerequisite: COH 300, COH 315, COH 400, and HSC 410*
COH 435	PH Communications & Advocacy *Prerequisite: COH 300, COH 315, COH 400, and HSC 410*
COH 440	Preparedness & Disaster Mgmt *Prerequisite: COH 300*
COH 499	Public Health Field Practicum *Prerequisite: COH 100, COH 150, COH 300, COH 310, COH 315, COH 320, COH 321, COH 380, COH 400, COH 401, COH 412, COH 416, COH 417, COH 418, COH 419, COH 422, COH 430, COH 435, COH 440*

■ BACHELOR OF SCIENCE
◆ MAJOR IN RADIATION THERAPY

Faculty Advisor: Mellonie Brown; (714) 429-5118; shhs@nu.edu

The Bachelor of Science in Radiation Therapy builds on a broad-based foundation in liberal arts and sciences designed to strengthen critical thinking and communication skills to work with a diverse population in multiple healthcare settings. Graduates of this program will be able to understand all aspects of radiation therapy including effective patient care and education, treatment planning and radiation physics as well as the biological effects of radiation in a rapidly advancing high touch, highly technical profession.

The Radiation Therapy Program combines classroom with clinical experiences to prepare graduates for an entry level position in the profession as an integral member of the healthcare team using radiation to treat cancer and some benign diseases. Graduates will use their competencies to assess the physical, emotional and educational needs of the patients they serve, determine the efficacy of a prescribed treatment and carry out the accurate delivery and documentation of treatment.

The Radiation Therapy Program is a full-time, lock-step program in which each cohort of students progress in unison, taking each of the courses in a sequenced manner. Courses in the program build on knowledge from courses previously completed with medical terminology as an integral component of all courses. Students will also take two courses in one month as scheduled. Once the program is completed, students will be eligible to apply to sit for the American Registry of Radiologic Technologists (ARRT) national examination and apply for certification from the California Department of Public Health, Radiologic Health Branch. The Radiation Therapy Program is currently seeking accreditation by the California Department of Public Health, Radiologic Health Branch and the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606 (312) 704-5300.

The Radiation Therapy Program prepares the graduate to be able to fulfill the following outcomes as an entry-level professional.

Admission Requirements

Students seeking to study radiation therapy at National University must:

A. Meet all requirements for admission to an undergraduate degree program at the University as outlined in the University Catalog.
B. Have obtained a 2.50 cumulative GPA from all regionally accredited institutions attended.
C. Students must complete a minimum of 40 hours of observation in a radiation therapy department. A completed time sheet must be signed by the therapist at the observation site. Time sheets and a list of observations sites are available in the radiation therapy office.
D. Submit a minimum of 3 letters of reference forms from radiation therapists in the department where the student observed, teachers, and/or an employer. Reference forms are available from the radiation therapy office.
E. Submit a separate application for admissions to the Department of Health Science, Radiation Therapy program.
F. Complete the written essay included with the application packet.
G. Interview with the Radiation Therapy Admissions Committee.

**Note: According to California Department of Public Health requirements, a student must be at least 18 years of age to participate in Clinical Internship.*

**Note: Meeting the minimum requirements, as listed above, does not guarantee admissions into the radiation therapy program.*

Admission Process

Admission to the radiation therapy program is a three-step process: 1) Application to the University; 2) Application to the respective radiation therapy program; and 3) Participation in an interview with the Radiation Therapy Program Admission Committee. Prospective students should follow the University application requirements listed in the "General Admission Procedures" section of this catalog. In addition, prospective radiation therapy students will complete a separate application for admission. These applications, with supporting documentation, are accepted in January and should be sent to the Radiation Therapy Program Director. A minimum GPA of 2.50 is required for entry into the Radiation Therapy Program.

A prospective student should first meet with an Admissions Advisor. The advisors are located at each of the University campus offices. The prospective student will arrange to have transcripts from all other Colleges and Universities sent to National University. These courses will be evaluated for equality to National University Department of Radiation Therapy required prerequisite courses. All prospective students will enroll in RTT 200 Introduction to Radiation Therapy. This course will review all aspects of the Radiation Therapy curriculum and program and profession to provide applicants with a knowledge base to form their decision to enter the program.

A Calculation Worksheet will be used to evaluate each prospective student's application packet by the Radiation Therapy Admissions Committee. The prospective student will be ranked in comparison to the other applicants during that application year. The scoring will be based on:

- Quality of grades in the prerequisite courses.
- Number of attempts to achieve a passing grade in the prerequisite courses.
- Ranking of the recommendation letters.
- Number of hours of clinical observation.
- Knowledge of the profession.
- Written essay included with the application packet.
- Ranked interview.

Once all prospective students for a given year have been interviewed, the Radiation Therapy Admissions committee will rank applicants based on the interview and application materials.

The highest ranked individuals will be admitted to the program until all class positions are filled. There is no waiting list. Students who are not accepted may re-apply for admissions process in the following year. They are encouraged to speak with the Program Director about strategies to strengthen their application. Before participating in clinical internship, students must submit proof of the Radiation Therapy Health Clearance, current health insurance and current Cardio-Pulmonary Resuscitation (CPR) certificate from the American Heart Association (BLS-Basic Life Support for Health Care Providers) . Students are responsible for determining if their health insurance coverage includes provisions for emergency room visits in the event of a needle stick or other injury in the clinical setting. Students are responsible for meeting all of the above requirements.

Background Checks

Radiation therapy departments used by the Radiation Therapy Option require criminal background and drug screening prior to internship. Students who do not pass the background check and/or drug test may be unable to attend the internship, therefore, may be unable to complete the program of study. Any fee or cost associated with background checks and/or drug testing is the responsibility of the student. Students will need to provide their own transportation to class and clinical internship. Proof of auto insurance and a valid driver's license is required.

Students successfully completing the Radiation Therapy Program will be eligible to apply for state and national examinations. Application for the national exam will be provided in the last course of the Program. Students are responsible for submitting applications and fees to the State of California and the American Registry of Radiologic Technologists (ARRT).

Program Learning Outcomes

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

- Effectively communicate with patients/families and members of the health care community.
- Demonstrate patient, radiation and equipment safety at all times.
- Demonstrate clinical competence in the areas of patient care, treatment, simulation, dosimetry and brachytherapy.
- Formulate priorities in daily clinical practice.
- Apply concepts of teamwork.
- Evaluate the clinical significance of the treatment parameters as prescribed to suspend treatment as appropriate.
- Develop plans based on patient assessment to address physical, emotional, and educational needs.
- Demonstrate the ability to critically think and apply knowledge to new situations.
- Analyze clinical data to ensure safety and quality improvement of radiation therapy operations.
- Evaluate treatment plans to ensure accurate and effective treatment delivery.
- Demonstrate values and attitudes congruent with the profession's standards and ethics.
- Analyze current health care research for application to the radiation therapy practice.
- Apply strategies that promote professional development and life long learning.

Degree Requirements

To receive a Bachelor of Science degree in Radiation Therapy, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University and 76.5 of which must be completed at the upper division level. In the absence of transfer credit, additional general education electives may be necessary to satisfy total units for the degree. Refer to the section on undergraduate admission requirements for specific information regarding admission and matriculation.

Preparation for the Major

(17 courses; 65.25 quarter units)

COM 103* **Public Speaking
MTH 215* **College Algebra & Trigonometry
Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B
BST 322* ** Intro to Biomedical Statistics
ILR 260** Information Literacy
Prerequisite: ENG 100, and ENG 101
PSY 100* Introduction to Psychology
SOC 100+ Principles of Sociology
Prerequisite: ENG 100, and ENG 101
BIO 161* ** General Biology 1
BIO 201* ** Human Anatomy & Physiol I
Recommended: Prior completion of: BIO 100, BIO 100A, CHE 101, CHE 101A or equivalent courses.
BIO 201A* Human Anatomy & Physiol Lab I (1.5 quarter units)
Prerequisite: BIO 201
BIO 202* ** Human Anatomy & Physiol II
Recommended: Prior completion of: BIO 201, and BIO 201A, BIO 100, and BIO 100A, CHE 101, and CHE 101A or equivalent courses
BIO 202A* Human Anatomy & Physiol Lab II (1.5 quarter units)
Prerequisite: BIO 202
BIO 203* ** Introductory Microbiology
Recommended: Prior completion of: BIO 201, and BIO 201A, BIO 202, and BIO 202A, BIO 100, and BIO 100A, CHE 101, and CHE 101A or equivalent courses
BIO 203A* Introductory Microbiology Lab (1.5 quarter units)
Prerequisite: BIO 203
PHS 181** Physics for Non-Sci Majors I
Prerequisite: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, or MTH 216B
PHS 182** Physics for Non-Sci Majors II
Prerequisite: PHS 181
RTT 200 Introduction to Radiation Ther (2.25 quarter units)
SOC 350+ * Cultural Diversity
Prerequisite: ENG 100, and ENG 101

or

SOC 331* Sociology of Health & Illness
Prerequisite: ENG 100, ENG 101, and SOC 100

** Courses required for professional accreditation.
* May be used to meet a General Education requirement
+ Diversity Enriched Offering

Requirements for the Major

(21 courses; 73.5 quarter units)

RTT 310 Sectional/Topographic Anatomy
Prerequisite: BIO 201 with a minimum grade of C, and BIO 202 with a minimum grade of C
RTT 300 Medical Imaging
Prerequisite: RTT 200 with a minimum grade of C Acceptance into the Radiation Therapy Program.
RTT 305 Patient Care I (3 quarter units)
Prerequisite: BIO 201 with a minimum grade of C, and BIO 202 with a minimum grade of C, and BIO 203 with a minimum grade of C, and RTT 300 with a minimum grade of C, Corequisite: RTT 320
RTT 320 Pro Ethics and Legal Issues (1.5 quarter units)
Prerequisite: RTT 300, Corequisite: RTT 305
RTT 315 Clinical Concepts I
Prerequisite: RTT 305 with a minimum grade of C, and RTT 306 with a minimum grade of C

RTT 480 Internship I
Prerequisite: RTT 300 with a minimum grade of C, and RTT 305 with a minimum grade of C, and RTT 306 with a minimum grade of C, and RTT 310 with a minimum grade of C, and RTT 320 with a minimum grade of C

RTT 410 Clinical Radiation Physics I
Prerequisite: MTH 215 with a minimum grade of C, and PHS 171 with a minimum grade of C, and RTT 300 with a minimum grade of C

RTT 411 Clinical Radiation Physics II
Prerequisite: RTT 410 with a minimum grade of C

RTT 306 Patient Care II
Prerequisite: RTT 305 with a minimum grade of C

RTT 415 Clinical Oncology I (2.25 quarter units)
Prerequisite: RTT 305 with a minimum grade of C, and RTT 306 with a minimum grade of C, and RTT 310 with a minimum grade of C, and RTT 480 with a minimum grade of C, Corequisite: RTT 316

RTT 316 Clinical Concepts II (2.25 quarter units)
Prerequisite: RTT 315 with a minimum grade of C, and RTT 480, and Corequisite: RTT 415

RTT 416 Clinical Oncology II (2.25 quarter units)
Prerequisite: RTT 415 with a minimum grade of C

RTT 317 Clinical Concepts III (2.25 quarter units)
Prerequisite: RTT 316 with a minimum grade of C, Corequisite: RTT 416

RTT 481 Internship II
Prerequisite: RTT 480 with a minimum grade of C

RTT 420 Radiation Biology (3 quarter units)
Prerequisite: RTT 410 with a minimum grade of C, and RTT 411 with a minimum grade of C, and RTT 415 with a minimum grade of C, and RTT 416 with a minimum grade of C, and RTT 481 with a minimum grade of C, Corequisite: RTT 460

RTT 460 Operational Issues (1.5 quarter units)
Prerequisite: RTT 316 with a minimum grade of C, and RTT 416 with a minimum grade of C, Corequisite: RTT 420

RTT 455 Medical Dosimetry
Prerequisite: RTT 315 with a minimum grade of C, and RTT 316 with a minimum grade of C, and RTT 317 with a minimum grade of C, and RTT 410 with a minimum grade of C, and RTT 411 with a minimum grade of C

RTT 440 Research in Radiation Therapy (2.25 quarter units)
Prerequisite: NSG 322 with a minimum grade of C, and RTT 315 with a minimum grade of C, and RTT 316 with a minimum grade of C, and RTT 317 with a minimum grade of C, and RTT 410 with a minimum grade of C, and RTT 411 with a minimum grade of C, and RTT 415 with a minimum grade of C, and RTT 416 with a minimum grade of C, Corequisite: RTT 450

RTT 450 Quality Management (2.25 quarter units)
Prerequisite: RTT 410 with a minimum grade of C, and RTT 411 with a minimum grade of C, Corequisite: RTT 440

RTT 482 Internship III (6 quarter units)
Prerequisite: RTT 481 with a minimum grade of C

RTT 490 Advanced Capstone
Prerequisite: Completion of major requirements.

Recommended Elective Courses
(4 courses; 18 quarter units)

GER 310 Healthy Aging
HSC 410 Informatics for Health Profs
HSC 310 Issues & Trends in Healthcare
HUB 401 Conflict Resolution
Prerequisite: ENG 100, ENG 101, and PSY 100

■ MASTER OF SCIENCE IN NURSE ANESTHESIA

Faculty Advisor: Bryan Tune; (559) 256-4946; btune@nu.edu

The Nurse Anesthesia Program will provide graduate students with a solid foundation in the basic sciences pertinent to anesthesia care delivery. The program will provide education and exposure to all aspects of clinical anesthesia to include, but not be limited to: regional anesthesia, general anesthesia, monitored anesthesia care, local infiltration techniques, and pain management. The curriculum is delivered in a two phase model. Phase 1 is composed of didactic instruction only, with the majority of course work conducted on campus. Phase one is composed of four quarters and is one year in length. Phase II is dedicated to clinical practicum and follows directly after phase I. Phase II is fifteen months in length following phase I. All coursework in the first phase of the program must be completed prior to starting the second phase of the program, and entry into the clinical setting. Clinical practicums provide the opportunity for administration of anesthesia under the direct supervision of a staff CRNA or anesthesiologists. Clinical rotations will be throughout California with supplemental rotations in Arizona, Washington, Oregon, Colorado, and Florida. Respective state nursing licensure for rotations out of California will be required. Housing and travel expense will be the responsibility of the student. The clinical rotations will provide the student with exposure to anesthesia delivery in large academic institutions as well as rural and outpatient settings. Specialty anesthesia rotations in cardiac, obstetrics, neurosurgery, pediatrics, transplant, and pain management will prepare the graduate to practice in a wide range of specialties.

The didactic and clinical education that the student receives throughout the Nurse Anesthesia Program will prepare them to take the national board certification exam administered by the National Board on Certification and Recertification of Nurse Anesthetists (NBCRNA) to become a Certified Registered Nurse Anesthetist. Application to the Master of Science in Nurse Anesthesia program is initiated by first applying to National University, then applying directly to the nurse anesthesia program via the supplemental nurse anesthesia application. The supplemental application will be submitted directly to the nurse anesthesia program office at the address listed on the application. The applications will be thoroughly screened for completeness and to assure all requirements have been met. Applicants who meet the screening criteria will be invited for a personal interview with program staff and local clinicians. Admission offers to the nurse anesthesia program will be given via letter, telephone, or email shortly after all interviews have been completed. All applicants to the program will be notified of their status for acceptance.
**Note: Program in accreditation eligibility with the Council on Accreditation for Nurse Anesthesia Educational Programs. Students may apply and interview with the program, but will not receive formal admission until the anticipated accreditation of January/May.*

Admission Requirements

1. Successful admission to National University.
2. Bachelor of Science in Nursing (BSN) from a NLNAC or CCNE accredited College or University or Bachelor of Science in a related physical science with licensure as a registered nurse.
3. Current unrestricted/unencumbered (clear/active) license as a registered nurse in one of the states of the United States, with eligibility for licensure throughout all states in the United States.
4. A cumulative grade point average (GPA) of 3.0 on all undergraduate courses or 3.0 on the last 60 units of undergraduate courses on a 4.0 scale.
5. Science GPA of 2.75 or greater.
6. A minimum of one full year of critical care experience in an

intensive care unit within the past three years as a registered nurse. Trauma emergency department and other experiences will be considered on an individual basis. Operating room, OB, and PACU experience is not accepted as critical care experience.
7. Three favorable evaluations/recommendations from: a. Current clinical supervisor b. CRNA, Anesthesiologist or RN c. Academic faculty member familiar with your academic performance
8. Professional certification in any of the following preferred: CCRN, TNC, or CFRN.
9. Current ACLS and PALS certification.
10. Shadow experience in the OR with a CRNA or Anesthesiologist.
11. Undergraduate Biochemistry course strongly recommended.
12. Successful personal interview.
13. Background check and drug screening test.
14. The successful completion of the following undergraduate prerequisite courses:
    Pharmacology: 3 semester/4 quarter
    Anatomy with Lab: 4 semester/6 quarter
    Physiology: 4 semester/6 quarter
    General Chemistry: 3 semester/4 quarter
    Statistics: 3 semester/4 quarter
    Biochemistry is not required but strongly recommended; Basic Research (1 course); Statistics (1 course) Must complete with a grade of B or better

Program Learning Outcomes

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

- Appraise the integration of scholarship into evidence based clinical anesthesia practice.
- Formulate anesthesia management plans for all complexities of anesthesia care through the entire perioperative phase using all available technologies.
- Appraise policy, issues, and trends in healthcare for their impact on anesthesia care and professional practice.
- Evaluate the broad context or system within which nurse anesthesia is practiced.
- Select, assemble, and maintain proper equipment, anesthetic agents, and accessories in preparation for sedation, general anesthesia, and/or regional anesthetic techniques
- Develop critical thinking to anticipate and solve problems, make decisions, and apply basic science knowledge to nurse anesthesia practice.
- Appraise multi-system anesthesia related problems in terms of pathogenesis, mechanisms of system-to-system interactions and potential complications.
- Develop and sustain relationships and partnerships with patients and other interdisciplinary professionals to facilitate optimal care and patient outcomes.
- Evaluate ethical principles to decision making in nurse anesthesia practice and healthcare systems.
- Evaluate the patient's physical and psychological status identifying abnormalities that will have implications on the anesthesia care plan, including evaluation of all laboratory, radiographic, and other diagnostic test data.
- Select therapeutic interventions based on scientific knowledge and emerging approaches to nurse anesthesia practice and healthcare delivery to promote optimal outcomes.

Degree Requirements

To receive an MSNA, students must complete 98.5 graduate quarter units. The program is designed in a cohort model and all courses must be taken in the set sequence. Due to the nature of the program no transfer credit is allowed. Further information on graduate admission and evaluation may be found in the Academic Information for Graduate Degrees section of the catalog.

Note: All course work must be completed with a grade of B- or higher to avoid academic probation and/or program dismissal.

Program Requirements

(24 courses; 98.5 quarter units)

PHASE 1

ANE 600 Nurse Anesthesia Human Anatomy
Prerequisite: Admission to the Nurse Anesthesia Program and or approval from the course lead and Nurse Anesthesia Program Lead.

ANE 600A Nurse Anesthesia Anatomy Lab (1.5 quarter units)
Corequisite: ANE 600

ANE 620 Advanced Pharmacology I (2.25 quarter units)
Prerequisite: ANE 600, ANE 610

ANE 610 Nurse Anesthesia Assessment (3.5 quarter units)
Prerequisite: Admission to the Nurse Anesthesia Program and/or permission from course lead and Nurse Anesthesia Program Lead.

ANE 615 Nurse Anesthesia Physiology I
Prerequisite: ANE 600, ANE 610

ANE 630 Anesthesia Pharmacology I
Prerequisite: ANE 600, ANE 610, Corequisite: ANE 620, ANE 615

ANE 635 Principles of Anesthesia I (7 quarter units)
Prerequisite: ANE 600, ANE 610, Corequisite: ANE 615, ANE 620, ANE 630

ANE 616 Nurse Anesthesia Physiology II
Prerequisite: ANE 600, ANE 615, ANE 610, ANE 620, ANE 630, ANE 635

ANE 640 Principles of Anesthesia II (7 quarter units)
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, Corequisite: ANE 616

ANE 621 Advanced Pharmacology II (2.25 quarter units)
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, Corequisite: ANE 616, ANE 640

ANE 631 Anesthesia Pharmacology II
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 621, ANE 630, ANE 635, Corequisite: ANE 616, ANE 640

ANE 645 Principles of Anesthesia III (7 quarter units)
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, ANE 616, ANE 640, ANE 621, ANE 631

ANE 650 Nurse Anesthesia EBP/Research (3.5 quarter units)
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, ANE 616, ANE 640, ANE 621, ANE 631, Corequisite: ANE 645

ANE 655 Aspects of CRNA Practice

PHASE 2

ANE 660 Nurse Anesthesia Clinical I
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 616, ANE 640, ANE 621, ANE 631, ANE 645, ANE 650, ANE 655

ANE 661 Nurse Anesthesia Seminar I (3 quarter units)
Prerequisite: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, ANE 616, ANE 640, ANE 621, ANE 631, ANE 645, ANE 650, ANE 655

ANE 666 Nurse Anesthesia Seminar II (3 quarter units)
Corequisite: ANE 665, Prerequisite: ANE 660, ANE 661

ANE 665 Nurse Anesthesia Clinical II
Prerequisite: ANE 660, ANE 661

ANE 671 Nurse Anesthesia Seminar III (3 quarter units)
Corequisite: ANE 670, Prerequisite: ANE 665, ANE 666

ANE 670 Nurse Anesthesia Clinical III
Prerequisite: ANE 665, ANE 666, Corequisite: ANE 671

ANE 675 Nurse Anesthesia Clinical IV
Prerequisite: ANE 670, ANE 671, Corequisite: ANE 676

ANE 676 Nurse Anesthesia Seminar IV (3 quarter units)
Corequisite: ANE 675, Prerequisite: ANE 670, ANE 671

ANE 680 Nurse Anesthesia Clinical V
Prerequisite: ANE 675, ANE 676, Corequisite: ANE 681
ANE 681 Nurse Anesthesia Seminar V (3 quarter units)
Corequisite: ANE 680, Prerequisite: ANE 675, ANE 676

● Specialization in Nursing Informatics for the Master of Science in Nursing

Faculty Advisor: Mary McHugh; (858) 309-3519; mmchugh@nu.edu

The Nursing Informatics specialization is designed for nurses who seek advanced education in nursing informatics theory and practice. Nurses play an important leadership role in the implementation of health information technology in health care delivery organizations. Potential students include nurses who participate and in some instances lead the successful deployment of health information technologies to achieve improvement in the quality, safety, outcomes and thus value of health services in the United States. The goal is to equip RNs for leadership roles in nursing informatics that includes the information and knowledge management best practices and effective technology capabilities for nurses identified through the Technology Informatics Guiding Education Reform Initiative (http://www.tigersummit.com/).

Program Learning Outcomes

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

- Collaborate with practitioners, educators, administrators, and researchers in the needs assessment, planning, design, transition to and evaluation of information systems and innovative technologies.
- Employ evidenced based practice resources and references to support the adoption and use of healthcare technologies for nurses at the point of care.
- Evaluate ongoing quality and process improvement for patient-centered care systems that optimize clinical workflow, care coordination, and patient outcomes.
- Lead nursing and staff development educational and innovation-oriented programs associated with technology adoption in health care settings.
- Evaluate the healthcare technology environment to ensure compliance with ethical, legal and regulatory mandates and professional standards for advanced nursing practice.

Specialization in Nursing Informatics

(6 courses, 27 quarter units)

NSG 650 Foundations of Informatics
NSG 651 Innovations in Health IT
NSG 652 Informatics/EHR Meaningful Use
NSG 653 Clinical Decision Support
NSG 654 Nursing Quality Improvement
NSG 655 Nursing Informatics Leadership

New Programs

■ MASTER OF SCIENCE IN CLINICAL AFFAIRS

Faculty Advisor: Irvin Kluth; (858) 309-3478; ikluth@nu.edu

The Master of Science in Clinical Affairs provides a comprehensive program of graduate study in the need, design, implementation and management of clinical trials from the biomedical industry perspective. In particular, it focuses on global regulations, standards and statutes which are necessary for designing, developing, obtaining approval, performing, and reporting on clinical trials. The program will be based on lectures, case studies, research and comprehensive texts and articles associated with the global biomedical industry, regulatory agencies, and governmental authorities who are engaged in clinical trial research monitoring, coordination and compliance. This program will prepare the student with a comprehensive academic and practical knowledge of the field; an understanding of the clinical life cycle, data management, and critical role that clinical trial research plays in the development and commercialization of biologic, device and drug products; and the skills needed to develop and implement appropriate protocols and documents.

Program Learning Outcomes

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

- Employ the global regulations, standards, and GCPs involved in designing, implementing and managing clinical trials for biologics, medical devices, and drugs.
- Apply knowledge of human rights obligations, the clinical life cycle, and adverse events to the design of a clinical trial.
- Select and utilize standard biomedical clinical affairs operating policies, procedures, forms, templates, reports, and electronic records.
- Design a methodology for a clinical trial with supportive data management and data analysis.
- Write compliance documents for clinical trials.
- Conduct a clinical trial regulatory audit/inspection.
- Design and evaluate clinical trials.

Degree Requirements

(13 courses; 58.5 quarter units)

To receive a Master of Science in Clinical Affairs, students must successfully complete at least 58.5 quarter units as required and identified in the curriculum. A total of five (5) fully accredited courses (22.5 quarter units) maybe transferred and granted for graduate work successfully completed at another accredited institution. Students should refer to the section on graduate admission requirements for specific information regarding application, transfer and evaluation, and graduation policies, procedures, and requirements.

Core Requirements

(10 courses; 45 quarter units)

CAF 600 Clinical Research Survey
Recommended: Prior completion of: previous or concurrent work experience and/or employment within the biomedical industry specifically within the Clinical, Quality or Regulatory Affairs functions.
CAF 605 Good Clinical Practice (GCP)
Recommended: Prior completion of: CAF 600
CAF 615 CAF Data Mgmt & Statistics
Recommended: Prior completion of: CAF 600
CAF 621 CAF Ethics & Pharmacivigilance
Recommended: Prior completion of: CAF 600
CAF 635 Clinical Trial Design
Recommended: Prior completion of: CAF 600
CAF 645 CAF Communications
Recommended: Prior completion of: CAF 600
CAF 650 Clinical Operations Part 1
Recommended: Prior completion of: CAF 600
CAF 651 Clinical Operations Part 2
Prerequisite: CAF 650
CAF 660 Clinical Trial Project Mgmt
Recommended: Prior completion of: CAF 600

Please choose one of the following:
CAF 699A Capstone Thesis Option
Prerequisite: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660

CAF 699B Capstone Project Option
Prerequisite: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
CAF 699C Capstone Internship Option
Prerequisite: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
CAF 699D Capstone Comprehensive Exam
Prerequisite: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660

Program Electives
(3 courses; 13.5 quarter units)

Students must choose three (3) courses, from the following list.
MRA 600 Intro to Regulatory Affairs
MRA 601 Clinical Documentation
MRA 602 Human Subjects in Clinical Tri
MRA 603 Medical Device and Pharmaceuti
MRA 604 Coordinating and Monitoring Cl
MRA 605 Analytical Methods for Regulat
MRA 606 FDA Regulations & Submissions

Course Descriptions

ADC 285 Practicum in Substance Abuse
Prerequisites: Satisfactorily complete 5 courses in the major, and Program lead faculty approval
A two-part field practicum in which students work in an approved practicum site doing 255 hours of substance abuse counseling. They also participate in an academic seminar where they discuss their field work. This course is a minimum of 6 months in length.

ANE 600 Nurse Anesthesia Human Anatomy
Prerequisite Admission to the Nurse Anesthesia Program and or approval from the course lead and Nurse Anesthesia Program Lead.
The Nurse Anesthesia gross anatomy course will provide the graduate nurse anesthesia student with a focused, advanced exploration of normal human anatomy, morphology, and embryology as it relates to anesthesia practice. The course utilizes both a lecture and laboratory component with gross anatomy laboratory dissection and pro-section study.

ANE 600A Nurse Anesthesia Anatomy Lab (1.5 quarter units)
Corequisite: ANE 600
An advanced human anatomy laboratory course that explores the anatomical structure of the human body. Body structure will be studied by organ systems and will involve a balance between gross anatomical study and histology. Form-function relationships will be emphasized. The laboratory study will involve working with human skeletal collections and dissection of cadavers and preserved specimens.

ANE 615 Advanced Physiology/Patho I
Prerequisites: ANE 600, ANE 610
Nurse Anesthesia Physiology/Pathophysiology I is a comprehensive examination of cellular, membrane, neurological, gastrointestinal and endocrine physiology with particular emphasis on how these topics relate to anesthesia management. Graduate nurse anesthesia students will also explore the common disorders and pathophysiology of each system.

ANE 616 Advanced Physiology/Patho II
Prerequisites: ANE 600, ANE 615, ANE 610, ANE 620, ANE 630, ANE 635
This is the second of a 2-course advanced physiology series. Nurse Anesthesia Physiology II is a comprehensive examination of cardiovascular, renal and respiratory physiology with particular emphasis on how these topics relate to anesthesia management. Graduate nurse anesthesia students will also learn the common disorders of each system.

ANE 635 Principles of Anesthesia I (7 quarter units)
Prerequisites: ANE 600, ANE 610
Corequisites: ANE 615, ANE 620, ANE 630
An in depth study of the administration of anesthesia utilizing principles of anesthesia with a pathophysiologic approach for the use of anesthesia equipment, the anesthesia gas machine, documentation, patient preoperative assessment, and basic patient care. Basic and advanced clinical monitoring, patient positioning, and thermoregulation are covered. Airway anatomy, basic and advanced airway management with practical laboratory applications.

ANE 640 Principles of Anesthesia II (7 quarter units)
Prerequisites: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635
Corequisites: ANE 616
Exploration of anesthetic delivery to patients with increasing co-morbidities, advanced pathophysiology, and complex anesthesia needs. Airway management and regional anesthesia techniques are thoroughly covered. Anesthetic techniques for the specialty practice of cardiac, thoracic, and vascular anesthesia is analyzed.

ANE 645 Principles of Anesthesia III 7 quarter units
Prerequisites: ANE 600, ANE 610, ANE 615, ANE 620, ANE 630, ANE 635, ANE 616, ANE 640, ANE 621, ANE 631
Detailed study of anesthetic techniques for differing surgical procedures for patients with acute and chronic pathophysiology requiring complex anesthesia management. Specialty practice of neurosurgery, renal, urology, transplant, hepatic, endocrine, trauma, pediatric, and high risk OB covered.

ART 329 World Art
Prerequisites: ENG 100, ENG 101
This course approaches the fundamentals of visual and applied arts from a global perspective and provides an overview of non-Western art from ancient times to the present. Specific areas of focus are the art of South Asia and the Islamic World, East Asia, Pre-Columbian Central and South America, Native North America, Africa and Oceania. Students learn how to look at, appreciate, and critically think and write about art from the perspectives of a diversity of cultures and historical eras.

CAF 600 Clinical Research Survey
Recommended: Prior completion of previous or concurrent work experience and/or employment within the biomedical industry specifically within the Clinical, Quality or Regulatory Affairs functions.
This course provides the CAF student with a broad overview of clinical research as applied to the development of biotechnology, pharmaceutical and medical device products. Clinical research will be considered within the corporate, legal, and regulatory environments within which the industry operates. The course will consider key issues concerning the design and execution of successful clinical development programs.

CAF 605 Good Clinical Practice (GCP)
Recommended: Prior completion of CAF 600
This course is designed to present an introduction to the global regulations governing the conduct of clinical trials and for regulatory approval of a new biologic, medical device, or pharmaceutical product. The student will be introduced to EMA, FDA & ICH regulations and standards, regulatory violations documented in warning letters, clinical roles and responsibilities, as well as the IRB/IEC process, and key study documents and principles of clinical study management.

CAF 615 CAF Data Mgmt & Statistics
Recommended: Prior completion of CAF 600
This course provides the student with a solid foundation and understanding of how clinical data contributes to the market application process. Beginning with describing the documents required for regulatory approval of products for marketing, the course will discuss the planning process for data collection,

processing, management, analysis, and summarization. Overall consideration in the generation of databases and analyses of data will be explored. Key statistical principles and tools will be applied to clinical trial protocols and statistical analysis plans.

CAF 621 CAF Ethics & Pharmacivigilance
Recommended: Prior completion of CAF 600.
This course identifies and describes the background and history for the protection of human subjects in clinical research. It also provides the student with a solid understanding of the ethical principles and practical challenges associated with protecting human subjects in clinical research. Students will identify and discuss ethics as a discipline, the Declaration of Helsinki, Institutional Review Boards, Informed Consent Forms, Data Management Committees/Data Monitoring Boards, Compliance, and HIPAA.

CAF 635 Clinical Trial Design
Recommended: Prior completion of CAF 600
This course identifies and discusses the basic concepts describing the design of clinical trials for demonstrating safety and efficacy for biologics, medical devices, or pharmaceutical products. It will identify, describe and discuss the similarities and differences of clinical trials between the various biomedical product segments. Students will identify and understand clinical trial nomenclature, key components of a clinical development plan and various options for the design of clinical trials. The life cycle and timeline for a clinical trial will be identified and understood.

CAF 645 Communications
Recommended: Prior completion of CAF 600
This course will provide the student with the necessary background for preparing verbal and written communications for the clinical affairs function within a biomedical organization. Beginning with an understanding of the documents required for regulatory approval of products for marketing, the course will identify and discuss the planning process for data collection, processing, management, analysis, and summarization. Overall considerations in generation of clinical trial protocols, regulatory communications, and final clinical reports will be covered.

CAF 650 Clinical Operations Part 1
Recommended: Prior completion of CAF 600
This course provides the student with an in-depth foundation for all operational aspects in the process of clinical research. The focus will be on developing, executing, and completing a single clinical trial. There will be detailed exploration of all aspects of the responsibilities of investigators and sponsors and the key operational aspects involved in setting up, running, monitoring, and completing a clinical trial. This Part 1 covers all requirements and activities through clinical trial initiation.

CAF 651 Clinical Operations Part 2
Prerequisite: CAF 650 Recommended: Prior completion of CAF 600
This course provides the student with an in-depth foundation for all operational aspects in the process of clinical research. The focus will be on developing, executing, and completing a single clinical trial. There will be detailed exploration of all aspects of the responsibilities of investigators and sponsors and the key operational aspects involved in setting up, running, monitoring, and completing a clinical trial. This Part 2 covers all requirements and activities from clinical trial start through trial close-out and archiving.

CAF 660 Clinical Trial Project Mgmt
Recommended: Prior completion of CAF 600
This course provides the student with an in-depth foundation in project management principles and tools for managing clinical trials from initiation through trial close-out and archiving. There will be detailed exploration, identification, and discussion of all aspects of Good Project Management practice (GPM), including developing an understanding of the responsibilities of project leaders, managers, members, and mentors, team interactions, required documents, study site management involvement, and the project life cycle.

CAF 699A Capstone Thesis Option
Prerequisites: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
This course is designed to have the student develop and implement a formal research document (thesis) that integrates all facets of “clinical affairs” including regulations, documentation, clinical evidence, data management, statistical analysis of the data and other principles taught throughout the entire program.

CAF 699B Capstone Project Option
Prerequisites: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
This course is designed to have the student develop and implement a formal research document (project) that integrates all facets of “clinical affairs” including regulations, documentation, clinical evidence, data management, statistical analysis of the data and other principles taught throughout the entire program.

CAF 699C Capstone Internship Option
Prerequisites: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
This course is designed to have the student actively experience a "Clinical Affairs" working environment according to the NU policies and procedures which govern such internships. The student will integrate all facets of “clinical affairs” including GCP, regulations, documentation, data and project management, statistical analysis and other principles taught throughout the entire CAF program

CAF 699D Capstone Comprehensive Exam
Prerequisites: CAF 605, CAF 615, CAF 621, CAF 635, CAF 645, CAF 650, CAF 651, CAF 660
This course is designed to have the student study and prepare for a comprehensive final "Clinical Affairs" degree program examination that integrates all facets of “clinical affairs” including regulations, documentation, clinical evidence, data management, statistical analysis of the data and other principles taught throughout the entire program.

CLS 310 Clinical Virology
Recommended: Prior completion of: CHE 101 BIO 161 BIO 203 or equivalent
Exploration of viral structure, classification, properties and interaction of viruses with cells, organisms and populations. Viral cultivation, the laboratory diagnosis of viral infections, and prevention and control of infection.

CLS 405 Clinical Microbiology
Recommended Preparation: CLS 301 CLS 305 CLS 315
The Clinical Microbiology course is a comprehensive course which will cover major groups of pathogenic bacteria, fungi, parasites, and Mycobacteria. Students will learn correct safety procedures, differentiate BSL’s, disinfection techniques, and BSC use. Study current trends in antibiotic use and their applications. Additionally study of human parasitic disease and Mycobacterial disease will be covered.

CLS 410 Clinical Hematology
Recommended Preparation: CLS 301 CLS 315 CLS 305
The Clinical Hematology course will cover the diagnosis and management of blood cell disorders, anatomy and physiology of hematopoiesis, routine specialized hematology tests, analysis, classification, and monitoring of blood cell abnormalities.

CSC 242 Intro to Programming Concepts
Prerequisites: CSC 208
Introduction to modern programming design techniques using C++. A study of basic programming constructs, techniques and fundamental control structures. Emphasis is on Object Oriented and modular programming. Coverage includes data types, functions, arrays and pointers. The course examines problem analysis, decomposition and modern programming paradigms and methodologies.

CSC 340 Digital Logic Design
Prerequisites: CSC 208 or EGR 220
Foundation in design and analysis of the operation of digital gates. Design and implementation of combinational and sequential logic circuits. Concepts of Boolean algebra, Karnaugh maps, flip-flops, registers, and counters along with various logic families and comparison of their behavior and characteristics.

CYB 608 Ethical Hacking
Prerequisites: CYB 606
This practicum focuses on the legal and regulatory requirements, ethical issues, basic methodology and technical tools used for ethical hacking and penetration tests. Students learn to establish a pre-test agreement with the enterprise, discover and exploit vulnerabilities, participate as a member of a pen test team and prepare a penetration test report.

CYB 612 Disaster Rec./Bus. Continuity
Prerequisites: CYB 608
In-depth focus on the development of an enterprise disaster recovery and business continuity plan that includes assessing impact and risks, prioritizing systems and functions for recovery, identifying data storage and recovery sites; specifying plans, procedures and relationships; creating a test process for the plan; and continued assessment of needs, threats and solutions.

CYB 614 Privacy of Information
Prerequisites: CYB 608
Addresses the privacy requirements of information and the techniques for maintaining the confidentiality of personal data in healthcare, financial, defense and industry sectors. Techniques for dealing with the anonymization of data including encryption are evaluated. Approaches of dealing with the requirements of HIPAA, the Patriot Act, Sarbanes Oxley and the European Union Data Privacy Act are evaluated. Includes the comparative security requirements of relational databases.

CYB 615 Securing the Enterprise
Prerequisites: CYB 614
The specific information assurance requirements of Healthcare are addressed as they relate to designing and maintaining secure, confidential medical records. Wireless data entry and retrieval devices are evaluated including PDAs, cell phones and wireless computer tablets.

CYB 616 Certification & Accreditation
Prerequisites: CYB 613
This course gives in-depth focus for Information Assurance from an INFOSEC, US defense/military, perspective. Information systems security from an INFOSEC perspective focuses on protection of information systems against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users, including those measures necessary to detect, document, and counter such threats. Emphasis is upon defining the IA priorities, baseline and current snapshot posture for an organization; and establish and manage an IA defense in-depth strategy.

CYB 621 Computer Forensics Principles
Prerequisites: CYB 608
Introduction of computer forensic principles: admissibility of electronic evidence, preparing for e-evidence collection; forensic examination of computers, detecting intrusions, malware, and fraud; and legal, ethical, and testimony topics.

CYB 623 Database Forensic Principles
Prerequisites: CYB 622
Application of forensic principles to server data bases with an SQL emphasis. This serves as a guide to artifact and incident identification and analysis that can be applied to other relational data base systems.

CYB 632 Info Sys Vulnerab & Attacks
Prerequisites: CYB 608
Students will apply principles of penetration testing to identify and exploit vulnerabilities in network facing information systems and make recommendations for mitigation. This course uses tools such as the Metasploit Framework that is a free, open source penetration testing solution developed by the open source community.

ECO 607 Economics for Managerial Decis
Recommended: Prior completion of: BUS 500A
In this course, students study the price system, market structure, and consumer theory as they apply to managers in a variety of decision-making environments. This course covers the use of mathematical and economic decision-making tools for determining optimal levels of output, resource usage, and capacity planning.

EDA 614 Introduction to Leadership
The theories, principles, and concepts related to leadership, administration, and management applied to education. Application and implications of theory for the instructional leader and education-related manager.

EDA 618 School Law and Policy
Introductory course in educational law and ethics. Examination of education law, codes, case law, and regulations and their school level applications. Focus on areas of school law likely to be used by beginning school administrators.

EDA 619 School Resource Management
Introduction to public school finance policies and practices, emphasizing site level finance. Exploration of federal, state, and local revenue sources, district and school budgeting, and financial management procedures. Introduction to public school budgeting and accounting procedures. Direction by practicing school administrators when investigating issues in public school finance.

EDA 620B Degree Field Experience
Prerequisites: Students must have completed at least 3 of the following courses: EDA 623, EDA 624, EDA 614, EDA 626, EDA 618, EDA 619
Supervised application of theoretical concepts in practical settings. Candidates complete a portfolio of administrative activities demonstrating competency in areas identified in the California Professional Standards for Educational Leaders as sanctioned by the Commission on Teacher Credentialing for awarding of the preliminary administrative services credential. Stresses day-to-day administrative functions as well as policy analysis and implementation. This course may be taken concurrently with another class or scheduled in an open month. This course takes 3-12 months to complete. It must be completed within 12 months of being scheduled. This course must be completed in residence. All students pursuing a Preliminary Administrative Services Credential, unless approved for the Intern program, must complete EDA 620B.Grading is by S or U only. Course is eligible for an "IP" grade.

EDA 620C Degree Field Experience
Prerequisites: Students must have completed at least 3 of the following courses:, EDA 623, and/or EDA 624, and/or EDA 614, and/or EDA 626, and/or EDA 618, and/or EDA 619
Supervised application of theoretical concepts in practical settings. Candidates complete a portfolio of administrative activities

demonstrating competency in those areas of school administration, educational or non-profit administration and leadership they intend to pursue. Course does not meet the requirements for the California Preliminary Administrative Services Credential. Candidates for the credential must take EDA620B. Grading is by S or U only. Course is eligible for an "IP" grade.

EDA 620I Intern Field Experience
Prerequisites: May only be taken by students approved for the internship program.
Internship practicum for Administrative Services Credential program. Practicum/field work of day-to day administrative functions, policy analysis and implementation, collaboratively supervised by National University and the candidate's school district of employment for candidates holding an administrative position while completing course work. Grading is by S or U only. Course is eligible for an "IP" grade.

EDA 623 Instructional Leadership
Theoretical and practical exploration of curriculum, instruction and accountability. The course will explore issues that have the potential to influence the planning, implementation and evaluation of curriculum and learning.

EDA 624 Supervision of Instruction
This course provides a theoretical and practical framework for supervising and evaluating instruction while modeling a personal code of ethics and developing professional leadership capacity. A variety of theoretical perspectives and skills for engaging in the practice of supervision of instruction, curriculum assessment, program quality, and standards-based instruction are presented. Emphasis is on instructional leadership that models personal and professional ethics, integrity, justice, and fairness, while expecting the same behaviors from others. Candidates focus on demonstrating skills in decision-making, problem solving, change management, planning, conflict management, and evaluation.

EDA 626 Community & Diversity
Analysis of social and political forces impacting human resources leadership and school-community relations. Internal and external components of operation of personnel and school management functions. Needs of diverse communities cultural Pluralism, personnel issues, and personnel and community relationships related to state and federal laws and local policies. Collective bargaining's impact on human resources and community relationships.

EDA 640 Introduction to H.E. Admin.
This course provides an overview of the basic aspects of higher education including issues, policies, operations, financial management, strategic planning, curriculum, and regional accreditation. A brief examination of the history and functions of colleges and universities in the United States and the world as well as an introduction to educational philosophy, curriculum and instruction provide the candidate a foundation of understanding of the role of the academe in today's society.

EDA 641 Leading and Managing Change
Prerequisites: EDA 640
This course examines theory and practice regarding resistance to and acceptance of change initiatives, including the impact on organizational culture. Learn to initiate and implement change in organizations through problem-solving experiences and exercises.

EDA 642 Policy & Accountability
Prerequisites: EDA 640
This course familiarizes students with assessment, policy-making, and accountability in higher education. Practical and theoretical approaches are explored. Power influences will be identified and examine, both inside and outside institutions including university hierarchy, state, and federal entities. Student learning and assessment's impact on the present and future of higher education will be explored, including the roles of state and regional accreditors.

EDA 643 Community Development in HE
Prerequisites: EDA 640
This course is an examination of the literature on theories related to interaction with the cultures found within a higher education community and the community in which the institution sits. Strategies for effective communication with various entities within the organization such as students, faculty, staff, and administration are gained, as well as engaging with the external community, local, state, and regional.

EDA 644 Higher Education Law/Politics
Prerequisites: EDA 640
This course examines the legal aspects of higher education, sources of law and authority presented; impact on, interaction with, and implications of the administration of higher education are discussed. The course provides an overview of the legal issues that arise in public and private college and universities and the policy implications of those issues. Pertinent federal and California statutes and case law will inform students of the legal rights and responsibilities of higher education students, faculty, and the administration.

EDA 645 Managing Finances & Operations
Prerequisites: EDA 640
This course provides a survey of how higher educational institutions are funded: private, non-profit/private, and public. Trends in higher education finance will be examined. Students will engage in case studies of institutions in financial crises and examine solutions to these crises.

EDA 646 Strategic Planning & Analysis
Prerequisites: EDA 640
This course will examine the processes of institution-wide planning that examines internal and external variables. An analysis of all relevant data provides a crucial element in these processes. Data include those pertaining to student learning and learning assessment.

EDA 647 Curriculum & Instruction in HE
Prerequisites: EDA 640
This course examines trends in curriculum and andragogy as they apply to higher education programs. This examination includes an in-depth analysis of modes of delivery such as online, onsite, and hybrid methods.

EDA 651 Ethics & Philosophy of Leaders
This course examines ethical school leadership through the lens of educational and leadership philosophies. Candidates will create a working philosophy that will guide their practice.

EDA 680 Charter School Leadership
Leadership skills necessary to establish and sustain a charter school; understanding the role the community in the charter school environment, the application process, and preparing to open and operate a charter school. Role that a Charter School leader plays in the daily operation and his/her relationship to the educational community. How to analyze and present data, and demonstrate strategies for developing and planning staff and community development.

EDA 684 Resource Mgt in Charter School
Overview of resource management in a charter school. Resources that will be discussed are time, personnel, facilities, and financial. How to plan for the best use of the resources available. Content learned in EDA 618, 619, and 626 will be expanded in this course and applied to charter schools.

EDT 605 Education Theory & Technology
This course provides a comprehensive view of curricular issues

facing teachers and instructors as the role of technology stimulates change in teaching methodology within the classroom instructional setting. Topics focus on cognition and learning and using technology to support constructivist learning, building technology-supported learning communities, student-directed research projects, and using collaborative communication tools both among students and between students and their mentors.

EGR 320 Scientific Problem Solving
Prerequisite EGR 220 with a minimum grade of C or CSC 208 with a minimum grade of C.
The scientific approach to problem solving through analysis and design are presented using modern computer science and engineering examples. Critical thinking and communication skills will be used to interpret and present results from real-world case studies where computers were used to solve scientific problems.

EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C. or CSC 208
Using hands-on computer tools, the scientific approach to problem solving through analysis and design is applied in this laboratory course. Results from these hands-on activities will be interpreted and presented both on an individual basis and in a team environment. Critical thinking and communication skills will be used to interpret and present results of scientific investigations.

ENG 201 Fiction Writing I
Prerequisites: LIT 100
An introductory course in writing short fiction. Students will focus on the basic elements of fiction writing and write their own original work. Students will also analyze published work and discuss each other's writing in a traditional workshop format.

ENG 202 Poetry Writing I
Prerequisites: LIT 100
An introductory level poetry workshop. Students will compose their own original poems and study the basics of the craft of poetry along with a general historical overview of the history of poetry and its developments.

ENG 203 Screenwriting I
Prerequisites: LIT 100, or ART 315
An introduction to the writing of feature-length screenplays. Students will learn the elements, formatting, and conventions of successful screenplays, and will learn to produce complete plots and scenes.

ENG 301 Fiction Writing II
Prerequisites: ENG 201
An intermediate course in writing fiction. Students will build on principles learned in ENG201, focusing on developing compelling and original fiction. Students will also discuss the importance of revision, and engage in thorough critiques of each other's original work.

ENG 302 Poetry Writing II
Prerequisites: ENG 202
An intermediate workshop in poetry. Students will compose their own original poems and continue the study of the craft of poetry, focusing on the modern tradition.

ENG 303 Screenwriting II
Prerequisites: ENG 203
Building on the skills learned in ENG 203, students will refine their critical ability to analyze and evaluate screenplays, and their visual storytelling skills, in order to produce an effective first act of a full-length screenplay.

ENG 401 Fiction Workshop
Prerequisite: ENG 301
An advanced course in writing fiction. Students will analyze sophisticated principles of fiction writing, evaluating different strategies for successful fiction, including non-traditional approaches. Students will write and revise advanced level original work, and provide rigorous feedback for their peers in a workshop setting.

ENG 402 Poetry Workshop
Prerequisite: ENG 202
In a workshop setting, students will build on the skills learned in ENG 202 and 302 to produce a significant collection of original poems.

ENG 403 Screenwriting Workshop
Prerequisite: ENG 303
In a workshop setting, students will build on the skills learned in ENG 203 and 303 to draft and revise an effective full-length screenplay.

GLS 150 Global Issues and Trends
Investigates global issues including economic restructuring, migration, employment, cultural exchange, environmental challenges, masculinity, women's health, peace building and human rights. Focuses students' attention as lifelong learners on contemporary trends and their effect on people's lives at both the local and global level.

HCA 401 Intro to HA HR Management
Recommended: Prior completion of: all Coursework in Preparation for the Major and HCA 400
Concepts of human resources in healthcare organizations, such as training, motivation and direction. Elements of employee selection, compensation, financial incentives, work standards, and leadership principles in healthcare organization considered.

HCA 402 Intro to HA QA Management
Recommended: Prior completion of: Completion of all Coursework in Preparation for the Major and HCA 400 (BSHA students).
Introduction to continuous quality improvement in healthcare. Includes evaluation and risk management methods. Introduces outcome measurement and case management fundamentals. Introduces team development, analytical statistics, and process knowledge themes.

HCA 403 Intro to Health Economics
Recommended: Prior completion of: all Coursework in Preparation for the Major and HCA 400 (BSHA students).
Introduction to the application of economics to decisions regarding the amount, organization, and distribution of healthcare services. Examine the structure, organization, activities, functions, and problems of healthcare from an economic perspective. Emphasis on management problems and policy issues in healthcare with regard to allocation of scarce resources.

HCA 405 Basic HA Budgeting & Finance
Recommended: Prior completion of: all Coursework in Preparation for the Major and HCA 400 (BSHA students).
Fundamentals of healthcare financial management and budgeting, including financial organization of healthcare services, sources of operating revenues, management of working capital, and allocation, control, and analysis of resources.

HCA 425 Healthcare Politics & Policy
Recommended: Prior completion of: all Coursework in Preparation for the Major and HCA 400 (BSHA students).
Consideration of healthcare policy and politics. Consideration of the role of federal, state and local government healthcare public policy impact on health services.

HCA 450 Global Health Systems
Recommended: Prior completion of: all Coursework in Preparation for the Major and HCA 400 (BSHA students).
Examination of factors that impact global health systems; analysis

of health care delivery systems and influential governmental, economic, social and political forces. Consideration of healthcare resource development and allocation.

HCA 494A Healthcare Internship
Prerequisites: HSC 300, HSC 310, HCA 400, HCA 401, HCA 402, HCA 403, HSC 410, HSC 430, HCA 405, HCA 407, HCA 409, HCA 425, HCA 450, ODV 420
Practical application of the knowledge and skills required for a healthcare administration professional in a healthcare agency. Students will be assigned to agencies according to their interests and the availability of an approved internship site. Two month requirement.

HIS 618A Seminar in Modern Europe I
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on early-modern European history (ca. 1500-1789). Areas may include, but are not limited to, political, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 618B Seminar in Modern Europe II
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature in modern European history since the French Revolution of 1789. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 620A Seminar in US History I
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on American history through the Civil War. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, and diplomatic history.

HIS 620B Seminar in US History II
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on U.S. history since the Civil War. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, and diplomatic history.

HIS 630 Seminar in World History
Prerequisites: HIS 600
Critical examination of major themes and topics as well as advanced research in the current scholarly literature in the field of world history. Emphasizes the reconceptualizations needed to research and write world history. Subject areas may include, but are not limited to, political, economic, intellectual, cultural, social, and environmental history.

HIS 640 Seminar in Comparative History
Prerequisites: HIS 600
Critical examination of major themes and topics as well as advanced research in the current scholarly literature in the field of comparative history. Highlights the interdisciplinary nature of comparative history. Subject areas may include, but are not limited to, political, economic, intellectual, cultural, social, and environmental history.

HIS 645A Special Topics in History I
Prerequisites: HIS 600
Advanced research in the current scholarly literature on a special topic in history. Variable topic chosen by the instructor. Possible topics include the history of work, imperialism, migration, gender, war, technology, family, or religion. (May not duplicate content of HIS 645B, HIS 649A or HIS 649B).

HIS 645B Special Topics in History II
Prerequisites: HIS 600
Advanced research in the current scholarly literature on a special topic in history. Variable topic chosen by the instructor. Possible topics include the history of work, imperialism, migration, gender, war, technology, family, or religion. (May not duplicate content of HIS 645A, HIS 649A or HIS 649B).

HIS 649A Seminar in a Period/Movement I
Prerequisites: HIS 600
Advanced research in the current scholarly literature on a period or movement in history. Variable topic chosen by the instructor. Possible topics: Renaissance, antebellum U.S., Age of Empires, Nazi Germany, civil rights, labor, environmental or national liberation movements. (May not duplicate content of HIS 645A, HIS 645B or HIS 649B).

HIS 649B Seminar in a Period/Movement I
Prerequisites: HIS 600
Advanced research in the current scholarly literature on a period or movement in history. Variable topic chosen by the instructor. Possible topics: Renaissance, antebellum U.S., Age of Empires, Nazi Germany, civil rights, labor, environmental or national liberation movements. (May not duplicate content of HIS 645A, HIS 645B or HIS 649A).

HIS 658 Seminar in Modern China
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on Chinese history since the establishment of the Qing dynasty (ca. 1615 C.E.). Areas may include, but are not limited to, political, military, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 668 Seminar in Modern Middle East
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on Middle Eastern history since ca. 1450 C.E. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 678 Seminar in Modern Africa
Prerequisites: HIS 600
Focused examination of primary and secondary sources as well as advanced research in the current scholarly debates on African history since ca. 1600. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 688 Seminar in Latin America
Focused examination of primary and secondary sources as well as advanced research in the current scholarly literature on Latin American history since ca. 1500. Areas may include, but are not limited to, political, economic, intellectual, cultural, social, environmental and diplomatic history.

HIS 695 Directed Research Methods
Prerequisites: HIS 600, HIS 618A, or HIS 618B, HIS 620A, or HIS 620B, HIS 630
Directed research on a historical topic chosen by the student in consultation with the instructor and the student's thesis project advisor. Involves successful completion of a research prospectus (proposal).

HIS 696 History and Applied Media
Prerequisites: HIS 600, HIS 695
Directed application of new media technologies to a historical topic chosen by the student in consultation with the instructor and the student's thesis project advisor. Involves successful completion of a historical digital storytelling prospectus (proposal).

HIS 698 Media/Technology Project
Prerequisites: HIS 695, and HIS 696, Select four classes from the list below., HIS 618A, or HIS 618B, HIS 620A, or HIS 620B, HIS 630, HIS 640, HIS 645A, HIS 645B, HIS 649A, HIS 649B, HIS 658, HIS 668, HIS 678, HIS 688
Two-month-long course. Required of all non-thesis history M.A. students as their last course. Culminates in the creation of a substantial, original multimedia website on a historical topic of personal interest involving the critical evaluation of primary sources and relevant secondary materials and interpretations and the writing of a well-developed commentary. Grading is on a H, S, or U basis only. Course is IP grade eligible.

HIS 699 Thesis
Prerequisites: HIS 695 Select four classes from the list below., HIS 618A, or HIS 618B, HIS 620A, or HIS 620B, HIS 630, HIS 640, HIS 645A, HIS 645B, HIS 649A, HIS 649B, HIS 658, HIS 668, HIS 678, HIS 688
Two-month long course. Required of all thesis history M.A. students as last course in program. Culminates in the research and writing of a substantial, original work on a historical topic of personal interest involving the critical examination and evaluation of primary sources as well as appropriate secondary materials and interpretations. At the end of the course, the student is issued an IP (In Progress) grade until a completed thesis is evaluated by the course instructor and the faculty advisor. Grading is H, S, or U only.

HTM 460 Health IT Virtual Simulation
Prerequisites: HSC 410
Laboratory-based course where administrative and clinical health information systems and technologies are introduced and practiced. Students will gain experience with simulated health information systems or real systems with simulated data.

ISL 660 Financial and Information Mgt
Prerequisites: ISL 661
Introduction to public school and non-profit finance policies and practices, emphasizing financial and information management. Exploration of federal, state, and local revenue sources, district and school budgeting, and financial management procedures for both schools and non-profit organizations. Introduction to budgeting and accounting procedures.

ISL 661 Leadership Global Seminar
Examine competencies for leadership in globalization including emerging and future trends for business and education. Develop cultural sophistication and awareness in order to prepare leaders for increasing globalization. Ideally, students will engage in an international experience as part of this course and (when international travel may be unavailable) may also participate in diverse models of education and cultural experiences within the U.S. which will provide for understanding and learning about populations that may not be considered mainstream or widely known.

ISL 662 Decision Making Organizations
Prerequisites: ISL 661
Analyze decision making frameworks in order to surface and develop ethical leadership and improve decision making skills. Learn to frame the dynamics and system forces that shape the community and political environment in order to engage others in decisions impacting them. This course uses an experiential approach in order for students to learn in an active and experimental format.

LIT 401 Contemporary Fiction
Prerequisites: LIT 100
An upper-level seminar in contemporary fiction. Students will discuss and analyze major genres and movements in contemporary fiction, focusing on American fiction. Students will situate contemporary fiction in current political, cultural, historical and philosophical trends to better understand the relationship between fiction and the contemporary world.

LIT 402 Contemporary Poetry
Prerequisites: LIT 100
A survey of important authors, movements, trends, and critical stances in contemporary poetry, with an emphasis on American poetry.

MDC 652 Digital Editing
Corequisites: MDC 652P
This workshop covers the history, theory and practice of motion picture editing and post-production workflow. Students evaluate and apply editing techniques and theory using digital still and video cameras based on practical assignments developed by the instructor. Practical assignments will receive individual and peer critiques.

MDC 653 Film Directing
Prerequisites: MDC 651, MDC 660, and MDC 662
Focusing on the theory and practice of directing films, the course covers the director's responsibility for developing the vision and objectives of a production. Students analyze and break down scripts and evaluate aesthetic choices necessary for effective dramatic and visual storytelling.

MDC 661 Cinematic Design
This seminar covers the application of visual aesthetic theory in the design of contemporary cinema and visual communication. Topics include the physiological and psychological basis of visual design such as perception of light and color, and the use of compositional elements and principles of cinematic design to construct meaning in film.

MDC 662 Sound Design
Prerequisites: MDC 652
Covers the role of sound in contemporary filmmaking, including the development of sound design as a part of contemporary cinema and essential aspects of field production audio recoding, post-production workflow, studio mixing, audio effects, ADR, music and media asset management.

MDC 683 Production Management
Prerequisites: MDC 650, MDC 651, MDC 652, MDC 662, and MDC 653
Corequisites: MDC 683P, MDC 688, and MDC 689
Working collaboratively as director, director of photography, assistant director, or production manager, students develop a film production from pre-production through production and post-production. Includes script breakdowns for budget, schedule, casting, location, cinematography and production design, on-set procedures, and post-production work-flow.

MDC 688 Production
Prerequisites: MDC 651 and MDC 653
Corequisites: MDC 683
Collaborative production of short film projects using professional equipment. Includes masters production workshops and production of a short film in an authentic production environment. Must be taken on site at a National University campus and concurrently with MDC 683P. See the program catalog description for residency information. A materials fee for production expenses applies.

MDC 689 Digital Cinema Post-Production
Prerequisites: MDC 650 and MDC 652
Corequisites: MDC 683
Students work collaboratively editing digital cinema projects shot during MDC 688 using professional editing and audio post-production systems. Must be taken onsite at a National University campus. Must be taken concurrently with MDC 683P, unless

approved by lead faculty. See the program catalog description for residency information. (A materials fee applies.)

MDC 692 Thesis Development
Prerequisites: Satisfactory completion of all MDC core requirements.
MFA candidates work independently with a thesis advisor to develop a story and proposal for a digital cinema short suitable for funding through grants or other sources. This is a 16-week course. For unsatisfactory graded proposal, the course must be repeated. Grading is by H, S, or U only.

MDC 693 Thesis Production (2.25 quarter units)
Prerequisites: MDC 692
MFA Candidates work independently in consultation with the thesis production advisor during the pre-production and production phases. Production deliverables include a production plan, final budget and schedule, production documentation and dailies. This is a two-month course. Grading is H, S, or U only. Unsatisfactory graded course must be repeated.

MDC 694 Thesis Postproduction (2.25 quarter units)
Prerequisites: MDC 693
Development of a digital asset management plan, post-production workflow and schedule and an editing script or outline and editing the thesis short subject film independently under the guidance of a postproduction advisor. Includes submission of multiple cuts of the film based on advisor and thesis committee critiques. This is a three-month course. Grading is S or U only. The course must be repeated for an unsatisfactory grade.

MDC 695 Thesis Qualification (2.25 quarter units)
Prerequisites: MDC 694
Final review and critique of a completed thesis film and written thesis. The candidate is allowed a maximum of three reviews to meet the qualification standard for the MFA. This is a two-month course. Grading is H, S, or U only. The course must be repeated for an unqualified project.

MGT 602 Strategic Decision-Making
A capstone course for MBA students. An in-depth study of general management functions as organizations adapt to the global environment, this course emphasizes environmental characteristics that make strategic management critical to organizational success, including assessment of organizational strengths and weaknesses, identification of opportunities and threats, optimum response to unanticipated events, and strategic analysis in turbulent environments. It also analyzes the socio-cultural, political, economic, ethical, technological, and regulatory environments that have an impact on businesses in multicultural settings. The course places special focus on the impact of NAFTA and GATT upon the strategic management of business enterprises. Explores global business opportunities provided through new technologies for both small firms and large corporations.

MKT 445 e-Marketing
Prerequisites: MKT 302A
An introduction to the interactive methods of marketing using a digital platform including social media, web-based and advanced global marketing techniques.

MTH 12A Algebra I
First of a two-course sequence covering methods of simplifying formulas and expressions, solving equations and inequalities, operating with exponents, and translating statements to symbols. Calculator use is highly recommended. Grading is S or U only. (This course is remedial in nature and does not award collegiate credit)

MTH 12B Algebra II
Second of a two-course sequence extending skills and logical analysis begun in MTH 12A. Course covers rational expressions, linear equations in two variables, algebraic and graphical solutions of systems of equations, scaling and variations, quadratic and rational equations with emphasis on practical applications. Calculator use is highly recommended. Grading is S or U only. (This course is remedial in nature and does not award collegiate credit)

MTH 204 Mathematics for Science
Prerequisites: MTH 12A, and MTH 12B, or Accuplacer test placement
A review of basic mathematics principles, including main algebra concepts, for business, probability and statistics, physical, natural, and social sciences for non-mathematics majors. This course provides the necessary skills to be successful in MTH 210, MTH 215, SCI 104 and SCI 104A, SCI 101 and SCI 101A, SCI 102, SOC 100 and SOC 260.

MTH 209A Fundamentals of Mathematics I
Prerequisites: Accuplacer test placement evaluation, or MTH 12A, and MTH 12B
A study of the real number system and its subsystems, ancient and modern numeration systems, problem-solving and simple number theory. Includes teaching materials and discussion of today's professional organizations. This is a content course, not a methods course.

MTH 210 Probability and Statistics
Prerequisites: Accuplacer test placement evaluation, or MTH 12A and MTH 12B
An introduction to statistics and probability theory. Covers simple probability distributions, conditional probability (Bayes Rule), independence, expected value, binomial distributions, the Central Limit Theorem, hypothesis testing, sampling and analysis of variance. Assignments may utilize the MiniTab software, or text-accompanying course-ware STATDISK for DOS PCs. Computers are available at the University's computer lab. Calculator with statistical functions is required.

MTH 215 College Algebra & Trigonometry
Prerequisites: Accuplacer test placement evaluation, or MTH 12A and MTH 12B
Examines higher degree polynomials, rational, exponential and logarithmic functions, trigonometry and matrix algebra needed for more specialized study in mathematics, computer science, engineering and other related fields. Computer and/or graphing calculator use is highly recommended.

MTH 216A College Algebra I (3 quarter units)
Prerequisites: Accuplacer test placement evaluation, or MTH 12A, and MTH 12B
The first part of a comprehensive two-month treatment of algebra and trigonometry preliminary to more specialized study in mathematics. The course covers higher degree polynomials, rational functions, exponential and logarithmic functions, transformations and the algebra of function, matrix algebra and basic arithmetic of complex numbers.

MTH 216B College Algebra II (3 quarter units)
Prerequisites: MTH 216A
The second month of a comprehensive two-month treatment of algebra and trigonometry; this course is a continuation of MTH 216A. Topics include trigonometric functions, analytic trigonometry and application, parametric equations, matrix algebra, sequences and series, and applied problems. Graphing calculator may be required.

MTH 220 Calculus I
Prerequisites: MTH 215, or Accuplacer test placement, or evaluation by a lead faculty
(Cross listed and equivalent to CSC208) An introduction to limits and continuity. Examines differentiation and integration concepts with applications to related rates, curve sketching, engineering

optimization problems and business applications. Students may not receive credit for both MTH220 and CSC208.

MTH 301 Fundamentals of Mathematics II
Prerequisites: MTH 209A, or Accuplacer test placement evaluation
This continuation of MTH 209A includes concepts of measurement, geometry, probability and statistics, elementary synthetic and Euclidean Geometry. Computer programming in BASIC is introduced. Methods are incorporated whenever possible. However, both MTH 209A and MTH 301 are content/concept courses as prescribed by State regulations, not methods courses. Calculator may be required.

PAD 403 Government Relations
This course is an exploration of how to communicate with citizens in a positive and helpful fashion. Discusses how to interact with community groups and the press and how to promote public understanding of, and support for, government activities.

PAD 404 Nonprofit Management
The course discusses the theories and roles of nonprofits in public administration. It explores the relationships between nonprofits and the public sector; and sources of revenue. Discusses the public policies towards the nonprofit sector and the ethical issues surrounding the sector.

PAD 627 Quantitative Methods
A practical study of graphical methods and statistical procedures specifically aimed at presenting, interpreting and solving problems related to public administration.

PAD 642 Public-Private Financing
An examination of financing partnerships between private businesses and public agencies such as school districts, college and university institutions and city and state governments. The course focuses on the design and construction of needed public facilities and the sponsoring of commercial redevelopment projects. Case studies provide detailed coverage of the complex process involve in taking a real estate project from conceptualization through construction.

PAD 643 Contract Negotiations
An analysis of bargaining and negotiation principles and practices in the public sector. The course focuses on the financial issues of contract negotiations and labor relations. Case studies, simulation exercises, research projects and group discussions complement the presentation of theory and practical experience in developing effective negotiation skills.

PGM 100 History of Sport
A survey of the history of American sport with a focus on European influences, as well as the influences of technological, cultural, racial, and economic diversity from Colonial American to present day.

PHS 181 Physics for Non-Sci Majors I
Prerequisites: 2 years of high school algebra, and MTH 204, or MTH 215, or MTH 216A, or MTH 216B
Non-calculus based general physics course for non-science majors. Study of one-dimensional and two dimensional kinematics, dynamics, statics, work, energy, linear momentum, solids and fluids, temperature and kinetic theory, heat, vibrations and waves, and electrostatics.

PHS 182 Physics for Non-Sci Majors II
Prerequisites: PHS 181
Non-calculus based general physics course for non-science majors Study of electric current and resistance, magnetism, electromagnetic induction, optics, relativity, quantum physics, quantum mechanics and atomic physics, and nuclear physics.

PSY 501A Foundations in Counseling I
A study of the essential principles and theories of psychology. Topics include social, developmental, and cognitive psychology.

PSY 501B Foundations in Counseling II
A study of the essential principles and theories in psychology. Topics include an overview of biological psychology, personality theory, and abnormal psychology.

TED 680 Dev as a Professional Educator
Prerequisites: California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position
A continuation of professional development for beginning teachers. Teachers will review their learning from their professional preparation program, explore professional standards for the teaching profession and design a growth plan to meet their needs and the needs of the students they serve. This is the first course for the Clear Credential program.

TED 682 Instructional Technology
Prerequisites: TED 680 California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position
An examination of technology used in classrooms with particular attention to maximizing available resources for communication and collaboration with a variety of stakeholders as well as assessing, planning and delivering instruction.

TED 684 Using Standards and Frameworks
Prerequisites: TED 680 California Preliminary Multiple or Single Subject Credential and a full-time teaching position in a P-12 school or a pre-approved long term substitute position
Beginning teachers will review, select, utilize and reflect upon appropriate content standards and other instructional materials in order to meet the learning goals for the class/ school/ district.

TED 686 Assessment and Instruction
Prerequisites: TED 680 Full-time teaching position in a public, charter or private school. A long-term substitute position may be used but needs pre-approval.
Beginning teachers will focus on the types of assessments used at their school, in district, state and national levels. Strategies for strengthening the use of assessment data for instructional planning will be researched, applied and reflected upon.

TED 688 Meeting Needs of All Learners
Prerequisites: TED 680 Full-time teaching position in a public, charter or private school. A long-term substitute position may be used but needs pre-approval.
This course covers background information on and strategies for use with a variety of learners including those with special needs, gifted and talented, English learners and struggling readers.

TED 699 Clear Credential e-Portfolio (1.5 quarter units)
Prerequisites: TED 680 satisfactory completion of three of the four elective courses as well as a full-time teaching position in a P-12 school or a pre-approved long term substitute position
Candidates will integrate their experiences in and reflection upon their first two years of teaching. Growth and development will be based upon the California Standards for the Teaching Profession.

The Division of Extended Learning

Updated Grading System for Academic Courses and Graded Continuing Education Unit Courses in Extended Learning

Grade	Definition
A	Exceptional
B	Very Good
C	Satisfactory
D	Marginal
F	Failing
I	Incomplete

New Program

DROPOUT PREVENTION SPECIALIST CERTIFICATE PROGRAM

Program Information: (858) 642-8600; extlearning@nu.edu

This six-course certificate program prepares individuals to become a Dropout Prevention Specialist (DPS) and be an advocate in the lives of children in at risk situations. Individuals learn about successful strategies proven to help young students stay in school and improve the quality of our nation's student graduates. Early identification and intervention, creating and improving resiliency factors, and a nurturing school climate are among the strategies suggested for students at high risk of failure. A DPS will foster whole and emotionally healthy children who will score higher on exams, learn more, and enjoy school more. Completion of the six courses meets the California Department of Education's requirements for a DPS certificate. The certificate may qualify for continuing education units in California and other states.

Course Delivery Mode

Classes are designed to be synchronous. Students will participate remotely with real-time Voice Over Internet Protocol Technology. Broadband access is mandatory.

The certificate program consists of the following six courses:
(6 courses; 7.2 CEUs)

DPX 1810X Intro to Dropout Prevention
DPX 1820X Student Success Team
DPX 1830X Assessment and Accountability
DPX 1840X Resources Fostering Resiliency
DPX 1850X School & Community Involvement
DPX 1860X Relevant Issues

Corrected Units

AUTISM EDUCATION CERTIFICATE PROGRAM

(4 courses; 16 CEUs)

NATIONAL BOARD CERTIFICATION (NBC) LEADERSHIP CERTIFICATE & COURSE

(5 courses; 20 CEUs)

The certificate program consists of the following five courses:

NBCX 1800X: NBC Orientation; 4 CEUs
NBCX 1803X NBC Accomplishments; 4 CEUs
NBCX 1804X Video Evidence; 4 CEUs
NBCX 1805X Student Assessment; 4 CEUs
NBCX 1806X NBC Portfolio; 4 CEUs

PARALEGAL SPECIALIST CERTIFICATES

Corporations Specialization (8 courses; 22.5 quarter units and 13.5 CEUs)
Criminal Law Specialization (8 courses; 22.5 quarter units and 13.5 CEUs)
Litigation Specialization (8 courses; 22.5 quarter units and 13.5 CEUs)

Terminated Programs

BUSINESS MANAGEMENT COURSE - Time Management Skills Improvement

PROFESSIONAL & PERSONAL DEVELOPMENT COURSE - Build & Sustain a Healthy Workplace: Understand and Eradicate Bullying at Work

Course Descriptions

DPX 1810X: Intro to Dropout Prevention
1.2 CEUs; $375
Provides overview of philosophy behind dropout prevention and key elements of quality school models. Learn elements of writing successful application for funded state department program. Course serves as foundation for subsequent courses that define strategies necessary to achieve dropout prevention outcomes and identify competencies required by dropout prevention specialist.

DPX 1820X: Student Success Team
1.2 CEUs; $325
Learn how to investigate, identify, and inquire about the problems facing those students while being sensitive to the diversity of the population. The SST members develop an ongoing, monitored, individual support plan to address the students' needs and work to develop a solutions-oriented support plan.

DPX 1830X: Assessment and Accountability
1.2 CEUs; $325
Review ongoing assessment principles and practical strategies for gaining essential data and designing an improvement plan. Learn the continuous improvement process that begins and ends with the evaluation of student work.

DPX 1840X: Resources Fostering Resiliency
1.2 CEUs; $325
This course focuses on resiliency factors to assist students and staff in overcoming obstacles and strategies for bringing school staff, students, and community into resilience effort. Elaborates on heavily researched factors and how to integrate into schools. Addresses school staff needing to broaden operations to become more community based and family-focused.

DPX 1850X: School & Community Involvement
1.2 CEUs; $325
Explore the benefits of expanding the scope of potential support, involving community support agencies, parents, and interested community members. Definitions of the major components of school outreach (communication, coordination, collaboration, and school and community involvement) are also covered.

DPX 1860X: Relevant Issues
1.2 CEUs; $325
Students' success in high-risk schools is the outcome of DPS's efforts. DPS serves as school-wide catalyst in many areas of school's improvement efforts. The DPS coordinates student support services from state and federal grants, local agencies, and parent and community. Class discussions center on relationship between DPS and school community.

NBCX 1800X: NBC Orientation
4.0 CEUs; $550
Students will experience an overview of the NBPTS assessment process and tools to be used in developing the NBC portfolio. Research, readings and assignments focus on evidence centered practice that increases achievement for diverse learners.

THE UNIVERSITY OF VALUES

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