



# GRADUATE CERTIFICATES

## Agricultural Sciences and Natural Resources

### Advanced Horticulture

To earn the Graduate Certificate in Floriculture and Nursery Production Management:

1. Learn More. (<https://www.unl.edu/gradstudies/academics/programs/AHRT-GCER/>)
2. Apply for admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as outlined here, with grades of B or higher in all classes.

#### Courses

Select 12 credits from the following:	12
ENTO 803 Management of Horticultural Crop Insects	
ENTO 812 Entomology and Pest Management	
HORT 824 Plant Nutrition and Nutrient Management	
HORT 842B Plant Physiology	
HORT 843A Greenhouse Crop Production	
HORT 843K Advanced Arboriculture	
HORT 843M Weed Science	
HORT 844A Environmental Nursery Production Practices	
HORT 888 Entrepreneurship and Enterprise Development	
Credit Hours Subtotal:	12

### Agronomy

To earn the Graduate Certificate in Agronomy:

1. Learn More (<https://graduate.unl.edu/academics/programs/AGRO-GCER/>).
2. Apply for admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. After meeting with an advisor, complete 12 credit hours from the course listing below.

AGRO 809A Case studies in plant breeding: Breeding for Disease Resistance	1
AGRO 809B Case Studies in plant breeding: Transgenic strategies for disease resistance	1
AGRO 811 Crop Genetic Engineering	2
AGRO 812 Crop and Weed Genetics	2
AGRO 821 Learning Biotechnology	3
AGRO 822 Integrated Weed Management	2
AGRO 825 Cover Crops in Agroecosystems	3
AGRO 826 Invasive Plants	3
AGRO 829 Plant Biotechnology Applications	3
AGRO 831 Spatial Variability in Soils	2
AGRO 832 Learning Plant Science	3

AGRO 835 Agroecology	3
AGRO 845 Livestock Management on Range and Pasture	3
AGRO 846 Forage Quality	3
AGRO 855 Soil Chemistry and Mineralogy	3
AGRO 860 Soil Microbial Ecology	3
AGRO 862 Cannabis Growth, Production and Breeding Basics	2
AGRO 872 Applied Soil Physics	3
AGRO 878 Plant Anatomy	4
AGRO 888 Entrepreneurship and Enterprise Development	3
AGRO 906 Crop Growth and Yield Modeling	3
AGRO 931 Population Genetics	3

### Entomology

To earn the Graduate Certificate in Entomology:

1. Learn More (<https://graduate.unl.edu/academics/programs/ENTO-GCER/>).
2. Apply for admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Certificate must be completed within 5 years of admission to program. Complete 15 credit hours as described here.

<b>Required Courses (8 credits)</b>	8
ENTO 805 Introduction to Entomology	1
ENTO 806 Insect Ecology	3
ENTO 818 Insect Identification and Natural History	4
ENTO 800 Insect Biodiversity	4
<b>Electives (7 credits)</b>	7
ENTO 801 Insect Physiology	3
ENTO 803 Management of Horticultural Crop Insects	3
ENTO 809 Insect Control by Host-Plant Resistance	3
ENTO 810 Insects as Educational Tools for the Classroom	3
ENTO 812 Entomology and Pest Management	3
ENTO 813 Biological Control of Pests	3
ENTO 814 Forensic Entomology	3
ENTO 815 Medical Entomology	3
ENTO 816 Forensic Insect Succession	1
ENTO 819 Insect Behavior	3
ENTO 820 Insecticide Toxicology	3
ENTO 822 Cultural Entomology	3
ENTO 825 Management of Agronomic Crop Insects	3
ENTO 828 Scientific Illustration	3
ENTO 835 Chemical Ecology of Insect-Plant Interactions	3
ENTO 850 Forensic Insect Morphology	1
ENTO 905 Seminar in Entomology	1
ENTO 915 Presentation Methods	3

## Floriculture and Nursery Production Management

To earn the Graduate Certificate in Floriculture and Nursery Production Management:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FNPM-GCER/>).
2. Apply for admission. (<https://www.unl.edu/gradstudies/admissions/steps/>)
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as outlined here, with grades of B or higher in all classes. Only 1 course per "or" group below may be applied toward this certificate.

Required Courses (6-7 credits)		6-7
HORT 824	Plant Nutrition and Nutrient Management	3
or HORT 842B	Plant Physiology	
HORT 843A	Greenhouse Crop Production	3-4
or HORT 844A	Environmental Nursery Production Practices	
Electives (5-6 credits)		5-6
HORT 843E	Advanced Interiorscaping	3
HORT 844B	Environmental Stress Physiology	1
HORT 888	Entrepreneurship and Enterprise Development	3
ENTO 803	Management of Horticultural Crop Insects	3
or ENTO 812	Entomology and Pest Management	
or ENTO 813	Biological Control of Pests	
or ENTO 820	Insecticide Toxicology	
AGRO 896	Independent Study	1-6
or ENTO 896	Independent Study in Entomology	
or HORT 842A	Plant Pathology	

## Food Safety and Defense

To earn the Graduate Certificate in Food Safety and Defense:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FDSD-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours, with 9 credit hours in core courses and 3 elective credit hours.

Required Courses (9 credits)		9
FDST 871	A Multidisciplinary Overview of Food Safety and Security (Kansas State Univ)	2
FDST 805	Food Microbiology (Univ of Nebraska)	3
FDST 872	Principles of Hazard Analysis and Critical Control Point System (Kansas State Univ)	2
FDST 873	Food-borne Toxicants (Iowa State Univ)	2
Electives (3 credits)		3
FDST 855	Microbiology of Fermented Foods (Univ of Nebraska, 2 cr)	2
FDST 874	Food Laws, Regulations, and the Regulatory Process (Iowa State Univ, 2 cr)	2
FDST 875	Rapid Methods in Food Microbiology (Kansas State Univ, 2 cr)	2

FDST 876	Risk Assessment for Food, Agriculture, and Veterinary Medicine (Iowa State Univ, 3 cr)	3
FDST 877	Advanced Food Microbiology and Biotechnology (Univ of Missouri-Columbia, 3 cr)	3

## Grassland Management

To earn the Graduate Certificate in Grassland Management:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/GRSM-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as planned. Up to half of the required coursework may be transferred on a case-by-case basis with the approval of the student's advisor.

Required Courses (12-13 credits)		12-13
AGRO 843	Ecology of Invasive Species	3
AGRO 846	Forage Quality	3
AGRO 847	Grassland Fire Ecology	3
AGRO 848	Grassland Monitoring and Assessment	2
AGRO 849	Watershed Management in Grasslands	3
AGRO 851	Grassland Plant Identification	2

## Ornamentals, Landscape, and Turf

To earn the Graduate Certificate in Ornamentals, Landscape, and Turf:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/ORTL-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here, with grades of B or higher in all classes.

Required Courses (6 credits)		6
HORT 824	Plant Nutrition and Nutrient Management	3
or HORT 842B	Plant Physiology	
HORT 843K	Advanced Arboriculture	3
Electives (6 credits)		6
HORT 814	Turfgrass Disease Management	1
HORT 844B	Environmental Stress Physiology	1
HORT 880	Modified Root Zones	1
HORT 888	Entrepreneurship and Enterprise Development	3
HORT 813	Turfgrass and Landscape Weed Management	1
or HORT 843M	Weed Science	
ENTO 803	Management of Horticultural Crop Insects	3
or ENTO 812	Entomology and Pest Management	
or ENTO 813	Biological Control of Pests	
or ENTO 820	Insecticide Toxicology	
AGRO 896	Independent Study	1-6

or ENTO 896 Independent Study in Entomology  
or HORT 842A Plant Pathology

## Personal Leadership

To earn the Graduate Certificate in Personal Leadership:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/PRLE-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here, with grades of B or higher in all classes.

### Required Courses (6 credits)

ALEC 877 Leadership and Motivation 3

ALEC 807 Supervisory Leadership 3

### Electives (6 credits)

ALEC 810 Environmental Leadership 3

ALEC 814 Classic Figures in Leadership 3

ALEC 855 Dynamics of Effective Leadership in Groups & Teams 3

ALEC 866 Leadership and Diversity in Organizations and Communities 3

ALEC 888 Leadership, Power and Influence 3

## Rural Economic and Community Vitality

To earn the Graduate Certificate in Rural Economic and Community Vitality:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/RECV-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here, with grades of B or higher in all classes.

### Required Courses (9 credits)

CDEV 814 Community and Regional Economic Analysis 3

ALEC 855 Dynamics of Effective Leadership in Groups & Teams 3

CDEV 894 Practicum/Creative Component/Thesis in Community Development 3

### Electives (3 credits)

CDEV 816 Nebraska Rural Government Law Fundamentals 1

CDEV 817 Nebraska Rural Government Finance Fundamentals 1

CDEV 818 Community Engagement 1

CDEV 819 Community Action Strategies 1

CDEV 825 Sustainable Economic Development 1

CDEV 826 Fundamentals of Business Analysis 1

CDEV 827 Community Workforce Development 1

## ARCHITECTURE

### Urban Design

To earn the Graduate Certificate in Urban Design :

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/URDS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 14-15 credit hours as outlined here, with grades of B or higher in all classes. Only 1 course per "or" group below may be applied toward this certificate.

### Required Courses (6 credits)

CRPL 800 Introduction to Planning 3

ARCH 861 Urbanism 3

### Electives (8-9 credits)

ARCH 810 Advanced Architectural Design I & ARCH 811 and Advanced Architectural Design II 10

CRPL 830 Planning with GIS 3

CRPL 833 GIS in Environmental Design and Planning 3

ARCH 562 Urbanism and the Catalysts of Change 3

ARCH 863 Project Territory (available only to students stacking this certificate with M.Arch) 3

CRPL 864 Urban Design 3

ARCH 892 Selected Topics in Architecture 1-6

CRPL 892 Selected Topics in Community and Regional Planning 1-9

or CRPL 990 Planning Studio

## Arts and Sciences

### Bioanalytical Chemistry

To earn the Graduate Certificate in Bioanalytical Chemistry:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/BIOA-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours.

### Required courses (6 credits)

CHEM 821 Analytical Chemistry 3

or CHEM 824 Applied Problems in Analytical Chemistry

CHEM 835 Chemical Biology 3

### Select two of the following (6 credits)

CHEM 825D Mass Spectrometry 3

CHEM 825G Chromatographic Separations 3

CHEM 825K Introduction to Nuclear Magnetic Resonance 3

CHEM 991A Selected Topics in Analytical Chemistry (Biosensors) 1-6

### Electives (6 credits)

CHEM 825E Data Handling and Statistics 2

CHEM 991E	Special Topics in Organic Chemistry (Introduction to Computational Chemistry)	2-4	4. Complete 12 credit hours as described here with a grade of B or better. The certificate program is comprised of interdisciplinary coursework between: Anthropology; Art, Art History & Design; Classics & Religious Studies; English; History; Modern Languages; and University Libraries. For further information about the certificate, see <a href="https://www.unl.edu/dhcert/home">https://www.unl.edu/dhcert/home</a> ( <a href="https://www.unl.edu/dhcert/home/">https://www.unl.edu/dhcert/home/</a> ).
CHEM 936	Molecular Biology Methods	2-3	
CHEM 871	Physical Chemistry	4	
CBIO 842	Biosystems Research 2: Integrating Quantitative and Computational Biology into Life Sciences Research	3	
BIOC 837	Research Techniques in Biochemistry	4	<b>Electives (12 credits)</b>
CHEM 823	Analytical Chemistry Laboratory	2	ADPR 866 Social Media Theory and Practice 3
CHEM 898	Special Problems (non-thesis research)	1-6	AHIS 806 / Visualizing the Ancient City 3
CHEM 825D	Mass Spectrometry (if not counted within core requirements)	3	ANTH 806 / CLAS 806
CHEM 825G	Chromatographic Separations (if not counted within core requirements)	3	ANTH 816 Digital Anthropologies 3
CHEM 991A	Selected Topics in Analytical Chemistry (other than Biosensors)	1-6	ANTH 884 Data Analytics in Anthropology 3
			ANTH 886 Digital Heritage 3
			ANTH 946 / Interdisciplinary Readings in Digital Humanities 3
			ENGL 946 / HIST 946 / MODL 946
			ENGL 872 / Digital Humanities Practicum 3
			HIST 872
			ENGL 877 Advanced Topics in Digital Humanities 3
			ENGL 878 Digital Archives and Editions 3
			GEOG 817 Web GIS 3
			GEOG 825 Geovisualization 3
			HIST 970 Seminar in Digital History 3
			MODL 891 Special Topics in Modern Languages 3 or 6

## Chromatography and Analytical Separations

To earn the Graduate Certificate in Chromatography and Analytical Separations:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/CHRM-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours.

<b>Required courses (12 credits)</b>	<b>12</b>
CHEM 821 Analytical Chemistry	3
or CHEM 824 Applied Problems in Analytical Chemistry	
CHEM 825G Chromatographic Separations	3
CHEM 991A Selected Topics in Analytical Chemistry	2
CHEM 825D Mass Spectrometry	3
CHEM 825A Ionic Equilibria	2
or CHEM 825E Data Handling and Statistics	
<b>Electives (6 credits)</b>	<b>6</b>
CHEM 898 Special Problems (non-thesis research)	1-6
CHEM 823 Analytical Chemistry Laboratory	2
CHEM 835 Chemical Biology	3
CHEM 982 Chemical Thermodynamics	3
CHEM 984 Chemical Kinetics	2
CHEM 991E Special Topics in Organic Chemistry (Introduction to Computational Chemistry)	2-4
BIOC 837 Research Techniques in Biochemistry	4
CHME 873 Biochemical Engineering	3
CHME 874 Advanced Biochemical Engineering	2-6

## Digital Humanities

To earn the Graduate Certificate in Digital Humanities:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/DIGH-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.

## Forensic Anthropology

To earn the Graduate Certificate in Forensic Anthropology:

<b>Required Courses (6 credits)</b>	<b>6</b>
ANTH 844 Human Osteology	3
ANTH 862 Forensic Anthropology	3
<b>Electives (12 credits)</b>	<b>12</b>
ANTH 843 Dental Anthropology	3
ANTH 855 Forensic Archaeology: Clandestine Burials, Mass Graves, and Human Rights	3
ANTH 856 Forensic Taphonomy: an Anthropological Approach	3
ANTH 884 Data Analytics in Anthropology	3
ANTH 887D Analysis of Archaeological Materials - Archaeofauna	3
ANTH 897 Advanced Fieldwork	3
ANTH 895 Internship in Anthropology	3
ANTH 945 Seminar in Bioanthropology	3



## Geographic Information Science

To earn the Graduate Certificate in Geographic Information Science:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/GISC-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 15 credit hours and a comprehensive examination.

Required Courses (6-7 credits, choose at least 2)		6-7
GEOG 817	Web GIS	3
GEOG 822	Advanced Techniques in Geographic Information Systems	4
GEOG 825	Geovisualization	3
GEOG 832	Programming, Scripting, and Automation for GIS	3
Electives (8-9 credits, select at least 2)		8-9
GEOG 818 / NRES 818	Introduction to Remote Sensing	4
GEOG 819 / NRES 820	Applications of Remote Sensing in Agriculture and Natural Resources	4
GEOG 827 / NRES 827	Introduction to the Global Positioning System (GPS)	2
GEOG 844	Geo-demographic and Geographic Information Systems (GIS)	3
GEOG 861 / ANTH 861	Geospatial Approaches in Digital Humanities and Social Sciences	3
GEOG 891	Special Topics in Geography	2-3
CIVE 853	GIS in Water Resources	3
CRPL 830	Planning with GIS	3
CRPL 832	Advanced Spatial Analysis with GIS	3
CRPL 833	GIS in Environmental Design and Planning	3
CRPL 892	Selected Topics in Community and Regional Planning	1-9
NRES 815	GIS for Agriculture and Natural Resources	4
STAT 831	Spatial Statistics	3

## Museum Studies

To earn the Graduate Certificate in Museum Studies:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/MUSS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours.

Required Courses (18 credits)		18
ANTH 818	Ethnology and Museums	3
ANTH 886	Digital Heritage	3
ANTH 887A	Analysis of Archaeological Materials - Ceramics	3
or ANTH 887B	Analysis of Archaeological Materials - Lithics	
or ANTH 887D	Analysis of Archaeological Materials - Archaeofauna	
or ANTH 887E	Analysis of Archaeological Materials - Historic Material Culture	

ANTH 895	Internship in Anthropology	1-6
ANTH 898	Research	1-3
ANTH 835	Heritage Resource Protection and Management	3

## Teaching of Writing

To earn the Graduate Certificate in Teaching of Writing:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/TWRT-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete a minimum of 5 courses equating to 15-18 credit hours. This may include up to 6 credit hours from outside the English Department.

Required Courses (3-6 credits)		3-6
ENGL 857A	Composition and Rhetorical Theory	3-4
ENGL 957	Composition Theory and Practice	1-6
ENGL 957B	Nebraska Writing Project	6
Electives (credits 9-15, Maximum 6 credits outside of English)		9-15
ENGL 857B	Nebraska Writing Project	1-3
ENGL 875	Rhetoric	3
ENGL 875A	Rhetorical Theory: Rhetoric of Women Writers	3
ENGL 895	Internship in English	1-3
ENGL 895A	Nebraska Writing Project Internship	1-3
ENGL 880	Writing Center Theory, Practice, and Research	3
ENGL 882	Literacy Issues and Community	3-6
ENGL 973	Seminar in Literacy Studies	1-24
ENGL 976	Seminar in Rhetorical Theory	1-24
ENGL 992B	Place Conscious Teaching	1-6
TEAC 813	Studies in Teaching English as a Second Language	1-15
TEAC 818	Teaching Writing in K-12 Schools	3
TEAC 838	Linguistics in Language and Learning Contexts	3
TEAC 840	Culture and Schooling	3
TEAC 921	Seminar in Literacy Studies	3
TEAC 950	Contextual Research in English/Language Arts	3
TEAC 952	Language and Learning	3
TEAC 953	Seminar on Writing in the Curriculum	3

## Business Administration

### Business Analytics

To earn the Graduate Certificate in Business Analytics:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/BSAN-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.

4. Complete 12 credit hours as listed below, **in this sequence starting with GRBA 851**.

<b>Required courses</b> (6 credits)		<b>6</b>
GRBA 851	Business Analytics	3
<b>Electives</b> (6 credits)		<b>6</b>
ECON 817	Introductory Econometrics	3
Preferred (3-6 credits)		3-6
SCMA 851	Predictive Analytics	3
SCMA 853	Data Mining and Descriptive Analytics	3
Optional (3 credits - If only one of the above courses is taken)		3
SCMA 837	Risk and Simulation Modeling	3
SCMA 852	Data Management and Organization	3
SCMA 854	Advanced Analytics and Big Data	3
SCMA 855	Prescriptive Analytics	3

## Financial Analytics

To earn the Graduate Certificate in Financial Analytics:

1. Learn More (<https://graduate.unl.edu/academics/programs/FNAN-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below.

<b>Required Courses</b> (6 credits)		<b>6</b>
FINA 801	Quantitative Methods in Finance	3
SCMA 851	Predictive Analytics	3
<b>Electives</b> (6 credits, choose only one FINA course and one SCMA course)		<b>6</b>
FINA 802	Fixed Income Analysis	3
FINA 863	Portfolio Management	3
FINA 867	Options, Futures and Derivative Securities	3
SCMA 837	Risk and Simulation Modeling	3
SCMA 853	Data Mining and Descriptive Analytics	3
SCMA 854	Advanced Analytics and Big Data	3

## Financial Communications

To earn the Graduate Certificate in Financial Communications:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FNCO-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below.

<b>Required Courses</b> (6 credits)		<b>6</b>
JOMC 820	Financial Communications	3
GRBA 808	Foundations of Business Strategy	3
<b>Electives</b> (6 credits)		<b>6</b>
ADPR 850	Public Relations Management and Case Studies	3
or JGRD 819	Graduate Writing, Reporting and Editing	

GRBA 809	Financial Accounting	3
or GRBA 811	Managerial Finance	

## Human Resources Management

To earn the Graduate Certificate in Human Resources Management:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/HRES-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below.

<b>Required Courses</b> (3 credits)		<b>3</b>
GRBA 816	Strategic Human Resource Management	3
<b>Electives</b> (9 credits)		<b>9</b>
Preferred		
MNGT 863	Compensation Administration	3
MNGT 864	Talent Acquisition and Staffing	3
MNGT 866	The Regulatory Environment for Employment and Labor	3
Optional (if preferred not available)		
MNGT 859 /	Managerial Negotiations	3
MRKT 859		
MNGT 817	Positivity for Managers	3

## Marketing Analytics

To earn the Graduate Certificate in Marketing Analytics:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/MRKA-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credits hours as listed below.

<b>Required Courses</b> (6 credit)		<b>6</b>
GRBA 813	Managerial Marketing	3
GRBA 851	Business Analytics	3
<b>Electives</b> (6 credits)		<b>6</b>
MRKT 821	Applied Marketing Research	3
MRKT 824		3
MRKT 845	Advanced Marketing Analytics	3
MRKT 850	Data-Driven Decision Making	3

## Sales Excellence

To earn the Graduate Certificate in Sales Excellence:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SALE-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credits hours as listed below.

<b>Required Course</b> (3 credits)		<b>3</b>
GRBA 813	Managerial Marketing	3

**Electives (9 credits)**

MRKT 850	Data-Driven Decision Making	3
MRKT 857		3
MRKT 858		3
MRKT 859	Managerial Negotiations	3

**Strategic Innovation and Entrepreneurship**

To earn the Graduate Certificate in Strategic Innovation and Entrepreneurship:

1. Learn More (<https://graduate.unl.edu/academics/programs/SIEN-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below.

**Required Courses (6 credits)**

GRBA 808	Foundations of Business Strategy	3
GRBA 853	Advanced Business Strategy	3

**Electives (6 credits)**

MNGT 818	Organization Designs for Competitive Advantage	3
ENTR 821	Identifying and Exploring Entrepreneurial Opportunities	3
ENTR 822	Entrepreneurship in Established Firms	3
ENTR 823	Business Plan Development and Decision Making	3
MNGT 840	Corporate Strategy and Entrepreneurship	3

**Strategic Marketing**

To earn the Graduate Certificate in Strategic Marketing:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/STMK-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below.

**Required Courses (3 credits)**

GRBA 813	Managerial Marketing	3
Electives (9 credits)		9

MRKT 821	Applied Marketing Research	3
MRKT 822		3

MRKT 826	Services Marketing	3
MRKT 828		3

MRKT 830	Strategic Issues in Marketing Communication	3
MRKT 835		3

MRKT 841		3
MRKT 855	Marketing and Globalization	3-6

**Supply Chain Analytics**

To earn the Graduate Certificate in Supply Chain Analytics:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SCAN-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below. GRBA 815 and GRBA 851 plus 2 of the other 6 courses listed.

**Required Courses (6 credits)**

GRBA 815	Supply Chain Management Strategies	3
GRBA 851	Business Analytics	3

**Electives (6 credits)**

SCMA 831	Advanced Enterprise Systems	3
SCMA 836	Project Management and Implementation	3
SCMA 837	Risk and Simulation Modeling	3
SCMA 851	Predictive Analytics	3
SCMA 853	Data Mining and Descriptive Analytics	3
SCMA 855	Prescriptive Analytics	3

**Supply Chain Management Systems**

To earn the Graduate Certificate in Supply Chain Management Systems:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SCMS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours.

**Required Courses (3 credits)**

GRBA 815	Supply Chain Management Strategies	3
Electives (9 credits)		9

SCMA 831	Advanced Enterprise Systems	3
SCMA 832	Planning and Controlling Supply Chain Systems	3
SCMA 834	Advanced Topics in Lean Supply Chain Management	3
SCMA 836	Project Management and Implementation	3
SCMA 839	Global Supply Chain Management	3
SCMA 844	Managing Logistics in the Supply Chain	3
SCMA 847	Information Technologies for Operations and Innovation	3

**Education and Human Sciences****Community College Leadership**

To earn the Graduate Certificate in Community College Leadership:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/CCLD-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 15 credit hours as described here.

**Required Courses (15 credits)**

EDAD 923	The Community/Junior College	3
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EDAD 929	Organizational Theory and Change	3	4. Complete 18 credit hours as described below, with an overall minimum GPA of 3.0. Only one course per "or" group may be applied toward the certificate.
EDAD 935	Workforce, Economic, and Community Development	3	
EDAD 934	Teaching and Learning in the Community College	3	
EDAD 912B	Emerging Issues in Community College Leadership	3	
<b>Early Childhood &amp; Family Policy</b>			
To earn the Graduate Certificate in Early Childhood & Family Policy:			
1.	Learn More ( <a href="https://www.unl.edu/gradstudies/academics/programs/ECSE-GCER/">https://www.unl.edu/gradstudies/academics/programs/ECSE-GCER/</a> ).		
2.	Apply for Admission ( <a href="https://www.unl.edu/gradstudies/admissions/steps/">https://www.unl.edu/gradstudies/admissions/steps/</a> ).		
3.	Consult an advisor to develop a plan of study.		
4.	Complete 12 credit hours as listed below, (grade must be a C or better). All courses below are offered sequentially.		
CYAF 831	ECFP: History, Development, and Equity in Shaping Early Childhood Policy	3	
CYAF 832	ECFP: Using a Policy Framework to Examine Early Childhood Services and Issues	3	
CYAF 906	ECFP: Policy Research in Early Childhood	3	
CYAF 907	ECFP: Policy Leadership and Advocacy in Early Childhood	3	
<b>Required Courses (10-12 credits)</b>			<b>10-12</b>
TEAC 802	Contemporary Children's Literature: Principles and Practices	3	
TEAC 854	Multiethnic Literature for Children & Adolescents	3	
TEAC 817	Emerging Reading and Language	3	
TEAC 813A or TEAC 811	Second Language Acquisition Reading Processes and Practices	1-3	
<b>Electives (6-8 credits)</b>			<b>6-8</b>
CYAF 874	Assessing Young Children and Their Environments to Enhance Development	3	
PSYC 889	Child Behavior and Development	3	
TEAC 811	Reading Processes and Practices	1-6	
TEAC 836A	Professional Development: Literacy Coaching	3	
TEAC 890	Workshop Seminar (section must be approved by advisory committee)	1-12	
SPED 815 or SPED 815A	Reading and Writing Disabilities: Elementary Students Practicum in Reading and Writing Disabilities- Elementary	2	
<b>Educational Neuroscience</b>			

## Early Childhood Special Education

To earn the Graduate Certificate in Early Childhood Special Education:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/ECSE-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as listed below, (grade must be a B or better).

<b>Required Courses</b> (12 credits)		12
SPED 860	Issues in Early Childhood Special Education	3
SPED 861 or SPED 862	Infants with Disabilities and Home Visiting Preschool Children with Disabilities	3
SPED 866	Family and School Collaboration in Special Education	3
SPED 863 or SPED 882	Medically Fragile infants Severe Multiple Disabilities: Methods	3

## Early Literacy

To earn the Graduate Certificate in Early Literacy:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/ELIT-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.

4. Complete 18 credit hours as described below, with an overall minimum GPA of 3.0. Only one course per "or" group may be applied toward the certificate.		
<b>Required Courses (10-12 credits)</b>		
TEAC 802	Contemporary Children's Literature: Principles and Practices	3
TEAC 854	Multiethnic Literature for Children & Adolescents	3
TEAC 817	Emerging Reading and Language	3
TEAC 813A or TEAC 811	Second Language Acquisition Reading Processes and Practices	1-3
<b>Electives (6-8 credits)</b>		
CYAF 874	Assessing Young Children and Their Environments to Enhance Development	3
PSYC 889	Child Behavior and Development	3
TEAC 811	Reading Processes and Practices	1-6
TEAC 836A	Professional Development: Literacy Coaching	3
TEAC 890	Workshop Seminar (section must be approved by advisory committee)	1-12
SPED 815 or SPED 815A	Reading and Writing Disabilities: Elementary Students Practicum in Reading and Writing Disabilities- Elementary	2

## Educational Neuroscience

To earn the Graduate Certificate in Educational Neuroscience:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/EDNR-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours of electives approved by the Certificate Program Advisor.

Required Courses (12 credits)		12
PSYC 865	Behavioral Neuroscience	3
or EDPS 922	Mind, Brain, and Education	
EDPS 991	Contemporary Topics in Educational Psychology	3
SLPA 995	Doctoral Seminar (Neural Basis of Reading)	3
SLPA 995	Doctoral Seminar (Neuroimaging & Language Disorders)	3

## Family Financial Planning

To earn the Graduate Certificate in Family Financial Planning:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FFPL-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).



3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours as listed here.

**Required Courses (18 credits)****Electives (9 credits)**

CYAF 821	FFPLN: Insurance Planning for Families	3
CYAF 823	FFPLN: Estate Planning for Families	3
CYAF 828	FFPLN: Retirement Planning, Employee Benefits and the Family	3
CYAF 836	FFPLN: Financial Planning Case Studies	3
CYAF 840	FFPLN: Personal Income Taxation	3
CYAF 883	FFPLN: Investing for the Family's Future	3

TEAC 807A	Equitable Practices in Mathematics Education: Identity, Access, & Equity in Mathematics Education	3
TEAC 807B	Equitable Practices in Mathematics Education: Teaching Mathematics for Social Justice	3
TEAC 807C	Equitable Practices in Mathematics Education: Mathematics Classroom Discourse	3
TEAC 808G	Improvement of Instruction in School Mathematics: Manipulatives in Mathematics Education	3
TEAC 808J	Improvement of Instruction in School Mathematics Special Topics	3
TEAC 836G	Professional Development: Mathematics Education Leadership	3
TEAC 848G	Introduction to Curriculum Studies: Mathematics Curriculum Analysis & Design	3
TEAC 849G	Studies in Assessment and Leadership for Learning: Assessment in Mathematics Education	3
TEAC 856P	Learning Models: Theories and Applications Specific to Mathematics Instruction	3
TEAC 880E	Teaching with Technology: Instructional Technology in Mathematics	1-3

**Financial Counseling**

To earn the Graduate Certificate in Financial & Housing Counseling:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FHOC-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours as listed below.

**Required Courses (12 credits)**

CYAF 825	FCSE: Reading in the Content Area	3
CYAF 822	FFPLN: Financial Counseling	3
CYAF 824	FFPLN: Fundamentals of Financial Planning	3
CYAF 841	FFPLN: Housing/Real Estate	3
<b>Electives (6 credits)</b>		<b>6</b>
CYAF 821	FFPLN: Insurance Planning for Families	3
CYAF 823	FFPLN: Estate Planning for Families	3
CYAF 826	FFPLN: Military Personal Financial Readiness	3
CYAF 828	FFPLN: Retirement Planning, Employee Benefits and the Family	3
CYAF 840	FFPLN: Personal Income Taxation	3
CYAF 883	FFPLN: Investing for the Family's Future	3
CYAF 897B	Practicum in Family Financial Planning	3-6

**K-3 Mathematics Specialist**

To earn the Graduate Certificate in K-3 Mathematics Specialist:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/K3MS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours as listed below. The required courses should be completed prior to registering for electives.

**Required Courses (9 credits)**

MATH 800P	Number and Operation for K-3 Mathematics Specialists	3
MATH 801P	Geometry, Measurement, and Algebraic Thinking for K-3 Mathematics Specialists	3
MATH 802P	Number, Geometry and Algebraic Thinking II for K-3 Math Specialists	3

**Mathematics Education**

To earn the Graduate Certificate in Mathematics Education:

TEAC 807A	Equitable Practices in Mathematics Education: Identity, Access, & Equity in Mathematics Education	3
TEAC 807B	Equitable Practices in Mathematics Education: Teaching Mathematics for Social Justice	3
TEAC 807C	Equitable Practices in Mathematics Education: Mathematics Classroom Discourse	3
TEAC 808G	Improvement of Instruction in School Mathematics: Manipulatives in Mathematics Education	3
TEAC 836G	Professional Development: Mathematics Education Leadership	3
TEAC 848G	Introduction to Curriculum Studies: Mathematics Curriculum Analysis & Design	3
TEAC 849G	Studies in Assessment and Leadership for Learning: Assessment in Mathematics Education	3

TEAC 880E	Teaching with Technology: Instructional Technology in Mathematics	1-3	Courses from the UNL Marriage and Family Therapy Program which fulfill this include: CYAF 872, 881, 882, 883, 888, 980, 984.
TEAC 856P	Learning Models: Theories and Applications Specific to Mathematics Instruction	3	4. Complete 15 (option A) or 45 (option B) credit hours as described here.
TEAC 907	Seminar in Elementary School Mathematics	3	Core Courses and Practicum
CYAF 890A Workshop Seminar: Early Childhood			
MATH 800T	Mathematics as a Second Language	3	CYAF 951 Theoretical Foundations of Marriage and Family Therapy 3
MATH 802T	Functions, Algebra, and Geometry for Middle Level Teachers	3	CYAF 957 Theory and Practice of Medical Family Therapy 3
MATH 803P	Algebraic Thinking in the Elementary Classroom	3	CYAF 958 Families, Health, and Illness in a Collaborative Care Context 3
MATH 804P	Problem Solving and Critical Thinking in the Elementary Classroom	3	CYAF 959 Applied Medical Family Therapy 3
MATH 804T	Experimentation, Conjecture and Reasoning	3	CYAF 997 Advanced Practicum in Family Therapy 1-14 (3 credits needed for the certificate)
MATH 805T	Discrete Mathematics for Middle Level Teachers	3	Other Required Courses
MATH 806T	Number Theory and Cryptology for Middle Level Teachers	3	CYAF 952 Psychopathology and Dysfunctional Interactions 3
MATH 807T	Using Mathematics to Understand Our World	3	CYAF 954 Assessment in Family Therapy 3
MATH 808T	Concepts of Calculus for Middle Level Teachers	3	CYAF 955 Clinical Family Therapy (Must take both 955A and 955B) 3
MATH 810T	Algebra for Algebra Teachers	3	CYAF 956 Couples and Sex Therapy 3
MATH 811T	Functions for High School Teachers	3	CYAF 953 Issues and Ethics for Family Professionals 3
MATH 812T	Geometry for Geometry Teachers	3	CYAF 865 Research Design and Methods 3
MATH 814T	Linear Algebra for Teachers	3	Individual development and family relations (9 cr, courses vary)
MATH 816T	Math in the City for Teachers	3	
STAT 812T	Statistics for High School Teachers	3	

## Medical Family Therapy

To earn the Graduate Certificate in Medical Family Therapy:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/MFTH-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study. There are two approaches to completing this certificate:

- **Approach A:** Those who hold a qualifying degree will be able to complete the certificate program within one year by taking the four core courses and practicum. For information on qualifying degrees and prerequisites, contact the department.

- **Approach B:** Those who do not hold a qualifying degree may complete the certificate as a standalone non-degree objective or as part of the Child, Youth and Family Studies master's degree with a specialization in Marriage and Family Therapy.

Requirements:

- The core courses and practicum (as for option A)
- The seven "other required courses" listed below
- Nine credit hours in individual development and family relations. Courses offered through UNL, UNMC, UNO, and other institutions will be considered on an individual basis.

## Mixed Methods Research

To earn the Graduate Certificate in Mixed Methods Research:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/MMRS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Upon admission, complete 15 credit hours as described here, with a grade of B or better in each course.

Required Courses (12 credits)		12
Statistics: Choose 1 course (3 cr)		
EDPS 859	Statistical Methods <sup>1</sup>	3
EDPS 860	Applications of Selected Advanced Statistics <sup>1</sup>	3
EDPS 941	Intermediate Statistics: Experimental Methods	3
EDPS 942	Intermediate Statistics: Correlational Methods	3
EDPS 971	Structural Equation Modeling	3
EDPS 972	Multivariate Analysis	3
Measurement: Choose 1 course (3 cr)		3
EDPS 870	Introduction to Educational and Psychological Measurement <sup>1</sup>	3

EDPS 970	Theory and Methods of Educational Measurement	3	3. Consult an advisor to develop a plan of study.
<b>Qualitative Methods: Choose 1 course (3 cr)</b>			
EDPS 900K	Qualitative Approaches to Educational Research <sup>1</sup>	3	4. Complete 15 credit hours as described here: two required courses and three elective approved by the Certificate Program Advisor.
EDPS 935	Seminar in Qualitative Research <sup>1</sup>	3	
EDPS 930A	Ethnographic Methods	3	
EDPS 930D	Discourse Analysis Across School, Home and Community Settings	3	
<b>Mixed Methods: Choose 1 course (3 cr)</b>			
EDPS 936	Mixed Methods Research <sup>1</sup>	3	
<b>Elective (3 credits)</b>		3	
Choose one additional course from the Statistics, Measurement, or Qualitative Methods sections.			
<b>Nutrition, Non-coding RNAs, and Extracellular Vesicles (N2V)</b>			
To earn the Graduate Certificate in Nutrition, Non-coding RNAs, and Extracellular Vesicles (N2V):			
1.	Learn More ( <a href="https://www.unl.edu/gradstudies/academics/programs/NNEV-GCER/">https://www.unl.edu/gradstudies/academics/programs/NNEV-GCER/</a> ).		
2.	Apply for Admission ( <a href="https://www.unl.edu/gradstudies/admissions/steps/">https://www.unl.edu/gradstudies/admissions/steps/</a> ).		
3.	Consult an advisor to develop a plan of study.		
4.	Complete 18 credits hours as listed below with a grade of B or better.		
<b>Required Courses</b> (18 credits - Select one course from each competency, an additional course from a competency may be required to meet 18 credits)		18	
<b>RNA Biology Competency (3 credits)</b>		3	
BIOS 945 RNA Biology		3	
<b>Bioinformatics Competency (3 credits)</b>		3	
BIOS 826 Systems Biology		3	
BIOS 827 Practical Bioinformatics Laboratory		3	
CSCE 823 Design and Analysis of Algorithms		3	
CSCE 871 Computational Methods in Bioinformatics		3	
CSCE 892 Special Topics in Computer Science	1-3		
<b>Human Nutrition Competency (2-3 credits)</b>	2-3		
NUTR 820 Molecular Nutrition	3		
NUTR 821 Molecular Nutrition Techniques	3		
NUTR 950 Integrated Principles of Human Nutrition	3		
<b>Cell Biology Competency (3 credits)</b>	3		
BIOS 820 Molecular Genetics	3		
<b>Health and Disease Competency (3 credits)</b>	3		
BIOC 935 Metabolic Function and Dysfunction	3		
<b>Research Ethics &amp; Management (1 or 3 credits)</b>	1-3		
AGRO 803 Scientific Writing and Communication	3		
BIOS 809 Professionalism	1		

## Social Justice and Diversity Education

To earn the Graduate Certificate in Social Justice and Diversity Education:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SJUS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).

3.	Consult an advisor to develop a plan of study.	
4. Complete 15 credit hours as described here: two required courses and three elective approved by the Certificate Program Advisor.		
<b>Required Courses (6 credits, an additional 6 credits may be taken)</b>		6
TEAC 813J Intercultural Communication		3
TEAC 861 Education for a Pluralistic Society: Foundation and Issues		3
TEAC 862 Seminar in Democratic Education		3
TEAC 944B Special Topics in Curriculum	1-3	
TEAC 949B Critical, Anti-colonial, & Decolonizing Theories in Education	3	
<b>Electives (3-9 credits)</b>		3-9
TEAC 807A Equitable Practices in Mathematics Education: Identity, Access, & Equity in Mathematics Education		3
TEAC 807B Equitable Practices in Mathematics Education: Teaching Mathematics for Social Justice		3
TEAC 807C Equitable Practices in Mathematics Education: Mathematics Classroom Discourse		3
TEAC 811 Reading Processes and Practices	1-6	
TEAC 815A Foundations of Dual Language Education	3	
TEAC 815J Spanish in the Content Areas	3	
TEAC 833B Comparative Education: Special Topics/ Travel Study	3-9	
TEAC 833 Comparative Education	3	
TEAC 838 Linguistics in Language and Learning Contexts	3	
TEAC 840D Culture and Schooling: Special Topics	1-6	
TEAC 840M Language and Power	3	
TEAC 887 Effecting High School Improvement	3	
TEAC 908J Critical Conversations in U.S. Teacher Preparation Policy and Practice: Teacher Education To What E	3	
TEAC 921D Seminar in Literacy Studies: Language, Culture, and Education	1-9	
TEAC 930M Introduction to Multimodal Textual Analysis	3	
TEAC 936 Seminar in College Teaching	1-3	
TEAC 944 Seminar in Curriculum Studies	1-3	

## Quilt Studies

To earn the Graduate Certificate in Quilt Studies:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/QLTS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here: three required courses and one elective approved by the Certificate Program Advisor.

<b>Required Courses (9 credits)</b>		9
TMFD 814 The Studio Craft Movement from Mid-century to DIY		3

TMFD 815	Aesthetics and the Quilt	3	<b>Required Courses (12 credits)</b>	12
TMFD 818	Quilts, History, Culture	3	SPED 846 Visual Impairments: Characteristics	3
<b>Electives (3 credits)</b>		3	SPED 872 Deaf or Hard of Hearing: Characteristics	3
TMFD 808	Textiles, Technology and Culture	3	SPED 866 Family and School Collaboration in Special Education	3
TMFD 809	Museums: Theory and Practice	3	or SPED 860 Issues in Early Childhood Special Education	
TMFD 876	Material Culture Research Methods	3	or SPED 861 Infants with Disabilities and Home Visiting	
TMFD 997	Internship	3	or SPED 863 Medically Fragile infants	
			SPED 852 Visual Impairments: Methods	3
			or SPED 873 Deaf or Hard of Hearing: Content Methods	
<b>Response to Intervention: Reading</b>				
To earn the Graduate Certificate in Response to Intervention: Reading				
1.	Learn More ( <a href="https://www.unl.edu/gradstudies/academics/programs/RINR-GCER/">https://www.unl.edu/gradstudies/academics/programs/RINR-GCER/</a> ).			
2.	Apply for Admission ( <a href="https://www.unl.edu/gradstudies/admissions/steps/">https://www.unl.edu/gradstudies/admissions/steps/</a> ).			
3.	Consult an advisor to develop a plan of study.			
4.	Complete 13-15 credit hours as described here: two core courses, one required workshop, and two other TEAC/SPED courses.			
<b>Required Courses (9 credits)</b>		9		
TEAC 811A	Teaching Reading	3		
TEAC 841	Content Area Reading, Grades 4-12	3		
TEAC 802	Contemporary Children's Literature: Principles and Practices	3		
or TEAC 839	Literature for Adolescents			
<b>Electives</b> Choose two courses (6-7 credits); at least one of the two elective courses must be a TEAC course.		6-7		
TEAC 806 and TEAC 806A must be taken together, 4 cr				
TEAC 806	Reading and Writing Disabilities: Adolescents			
TEAC 806A	Reading Center Practicum II			
TEAC 811	Reading Processes and Practices (other than Response to Intervention)	3		
TEAC 817	Emerging Reading and Language	3		
TEAC 836A	Professional Development: Literacy Coaching	3		
TEAC 838	Linguistics in Language and Learning Contexts	3		
TEAC 854	Multiethnic Literature for Children & Adolescents	3		
TEAC 886	Assessment, Evaluation, and Instruction of At-Risk Readers (specific section must be approved for inclusion by the advisory committee)	3		
SPED 886A	Special Topics in Literacy Assessment	3		
<b>Teaching English to Speakers of Other Languages</b>				
To earn the Graduate Certificate in Teaching English to Speakers of Other Languages:				
1.	Learn More ( <a href="https://www.unl.edu/gradstudies/academics/programs/TESO-GCER/">https://www.unl.edu/gradstudies/academics/programs/TESO-GCER/</a> ).			
2.	Apply for Admission ( <a href="https://www.unl.edu/gradstudies/admissions/steps/">https://www.unl.edu/gradstudies/admissions/steps/</a> ).			
3.	Consult an advisor to develop a plan of study.			
4.	Complete 12 credit hours as described below with a B or better grade and no less than a 3.25 GPA.			
<b>Required Courses (9 credits)</b>		9		
TEAC 813A	Second Language Acquisition	3		
TEAC 813K	Linguistics for Language Teachers	3		
TEAC 813P	Teaching English as an International Language	3		
or TEAC 813B	ESL: Teaching and Curriculum			
<b>Electives (3 credits)</b>		3		
TEAC 813D	World Languages Assessment	1-3		
TEAC 813E	Special Topics in TESOL	1-3		
TEAC 813J	Intercultural Communication	3		
TEAC 813M	Teaching Multilingual Learners in Content Areas	3		
TEAC 833A	Comparative Education Survey	3		
TEAC 833B	Comparative Education: Special Topics/ Travel Study	3		
TEAC 897E	Student Teaching Internship: English as a Second Language	1-3		
TEAC 838	Linguistics in Language and Learning Contexts	3		
TEAC 921D	Seminar in Literacy Studies: Language, Culture, and Education	1-3		

**Sensory Disabilities**

To earn the Graduate Certificate in Sensory Disabilities:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SDIS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here.

**World Language Teaching: German**

To earn the Graduate Certificate in World Language Teaching: German:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/WLTG-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 15 credit hours as described below.

<b>Required Courses</b> (15 credits - choose 15 credits from the following)		15	<b>Youth Development Specialist:</b>	
TEAC 922	Seminar in the Learning and Teaching of Foreign Languages		3	Required: 6 cr.
TEAC 922C	The Interpretive Mode: Reading and Listening in the German Language Classroom (formerly 922B)	3	CYAF 861	YD: Foundations of Youth Development
TEAC 922G	Interpersonal and Presentational Writing in the German Language Classroom (formerly 922F)	3	CYAF 872	YD: Youth Development
TEAC 922P	Assessment in the German Language Classroom (formerly 922O)	3	Electives: 6 cr.	
TEAC 922T	Planning in the German Language Classroom (formerly 922S)	3	CYAF 847	YD: Youth, Sports & Society
TEAC 922X	Technology-Enhanced German Language Instruction (formerly 922W)	3	CYAF 866	YD: Youth Mental Health
TEAC 922E	Teaching for Intercultural Communicative Competence in the German Language Classroom	3	CYAF 868	YD: Adolescents and Their Families
TEAC 922L	Interpersonal and Presentational Speaking in the German Language Classroom	3	CYAF 875	YD: Youth in Cultural Contexts (Michigan State Univ)
TEAC 922Z	Teaching for Intercultural Communicative Competence in the Foreign Language Classroom	3	CYAF 878	YD: Youth Policy (Michigan State Univ)
		Credit Hours Subtotal:		12
		<b>Youth Program Management &amp; Evaluation:</b>		
		Required: 9 cr.		9
		CYAF 861	YD: Foundations of Youth Development	
		CYAF 869	FAM/YD: Administration and Program Management	
		CYAF 873	FAM/YD: Program Design, Evaluation and Implementation	
		Electives: 3 cr.		3
		CYAF 842	YD: Grants & Administration	
		CYAF 863	YD: Youth Professionals as Consumers of Research (UNL)	
		CYAF 866	YD: Youth Mental Health	
		CYAF 878	YD: Youth Policy	
		Credit Hours Subtotal:		12

## World Language Teaching: Spanish

To earn the Graduate Certificate in World Language Teaching: Spanish:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/WLTS-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 15 credit hours as described below.

<b>Required Courses</b> (15 credits - choose 15 credits from the following)		15	<b>Engineering</b>	
TEAC 922O	Assessment in the Spanish Language Classroom		3	<b>Additive Manufacturing</b>
TEAC 922S	Planning in the Spanish Language Classroom	3	MECH 872	Additive Manufacturing
TEAC 922W	Technology-Enhanced Spanish Language Instruction	3	<b>Electives</b> (9 credits)	
TEAC 922	Seminar in the Learning and Teaching of Foreign Languages	3	MECH 822	Industrial Quality Control
		MECH 820		Heat Transfer
		MECH 851		Introduction to Finite Element Analysis
		MATL 860		Mechanical Aspects of Materials
		MATL 865		Applied Physical Metallurgy and Design

## Youth Development Certificate

To earn the Graduate Certificate in Youth Development:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/YTHD-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study and choose a focus: Youth Development Specialist or Youth Program Management and Evaluation.
4. Complete 12 credit hours as described below. *Some courses listed require admission to a Child, Youth and Family Studies graduate degree program or permission.*

## Engineering Additive Manufacturing

To earn the Graduate Certificate in Construction Engineering & Management:

1. Learn More (<https://graduate.unl.edu/academics/programs/ADMA-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described below with a grade of B or better.

<b>Required Courses</b> (3 credits)		3
MECH 872	Additive Manufacturing	
<b>Electives</b> (9 credits)		9
MECH 822	Industrial Quality Control	3
MECH 820	Heat Transfer	3
MECH 851	Introduction to Finite Element Analysis	3
MATL 860	Mechanical Aspects of Materials	3
MATL 865	Applied Physical Metallurgy and Design	3

## Construction Engineering & Management

To earn the Graduate Certificate in Construction Engineering & Management:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/CEMT-GCER/>).

2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described below with a grade of B or better.

CNST 811	Project Administration	3
CNST 815	Mechanical/Electrical Project Management	3
CNST 820	Professional Practice and Ethics	3
CNST 825	Alternative Project Delivery Methods	3
CNST 826	Occupational Health and Safety for Construction	3
CNST 834	The Design-Build Project Delivery System	3
CNST 836	Intent and Application of International Building Code	3
CNST 844	Construction Site Safety Management	3
CNST 850	Sustainable Construction	3
CNST 860	Construction Visualization and Simulation	3
CNST 880	Productivity and Human Factors in Construction	3
CNST 882	Heavy and/or Civil Construction	3
CNST 885	Construction Planning, Scheduling, and Controls	3
CNST 886	Construction Management Systems	3
CNST 887	Construction Leadership and Strategic Planning	3
CNST 890	Masters Project	3
CNST 895	Graduate Internship	3
CNST 898 / CONE 898	Special Topics in Construction Management **	1-6
CONE 817	Formwork Systems	3
CONE 821	Construction Risk Assessment and Management	3
CONE 859	BIM I: Introduction to Building Information Modeling (BIM)	3
CONE 866	Heavy and/or Civil Estimating	3
CONE 876	Project Budgets and Controls	3
CONE 883	Support of Excavation	3
CONE 895	Graduate Internship	3

\*\*Indicates a course that may count as a graduate credit "only" course. The student must work with their advisor, the graduate committee chair, and the course instructor to determine the status of the section taken. A written contract is required.

## **Engineering Management**

To earn the Graduate Certificate in Engineering Management:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/EMGT-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described below.

<b>Required Courses</b> (6 credits)	6
EMGT 805	Teamwork for Organizational Commitment and Collaboration
EMGT 806	Decision and Risk Analysis
<b>Electives</b> (6 credits)	6
EMGT 803	Management of Engineering and Technology
EMGT 804	Human Relations in Engineering and Sciences
EMGT 807	Project Management
EMGT 808	Engineering Leadership
EMGT 811	Legal Considerations for Engineering Managers
EMGT 819	Applied Management Science for Engineering and Operations
EMGT 822	Production and Operations Management
EMGT 820	Quantitative Analysis for Engineering Management Decisions
EMGT 891	Special Topics in Engineering Management
EMGT 901	Total Quality Management Using Six Sigma Techniques
EMGT 905	Strategic Management and Planning

## **Internet of Things**

To earn the Graduate Certificate in Internet of Things (IoT):

1. Learn More (<https://graduate.unl.edu/academics/programs/IOT-GCRT/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described below with a grade of B or better.

<b>Required Courses</b> (3 credits)	3
CSCE 838	Internet of Things
<b>Electives</b> (9 credits)	9
CSCE 829	Information Theory
CSCE 836	Advanced Embedded Systems
CSCE 839	Robotics: Algorithms and Applications
CSCE 858	Molecular and Nanoscale Communication
CSCE 863	Data and Network Security
CSCE 865	Wireless Communication Networks
CSCE 875	Multiagent Systems
CSCE 878	Introduction to Machine Learning
CSCE 892	Special Topics in Computer Science

## **Journalism and Mass Communications**

### **Public Relations and Social Media**

To earn the Graduate Certificate in Public Relations and Social Media:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/PRSM-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.

4. Complete 12 credit hours as described here, with grades of B or higher in all classes.

<b>Required courses</b>	(12 credits)	<b>12</b>
ADPR 830	Strategic Communications: Advertising Issues and Strategies	3
ADPR 834	Digital Insight & Analytics	3
ADPR 850	Public Relations Management and Case Studies	3
ADPR 866	Social Media Theory and Practice	3

## Sports Promotion

To earn the Graduate Certificate in Sports Promotion:

1. Learn More (<https://graduate.unl.edu/academics/programs/SPPR-GCER/>).
2. Apply for Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours as described here, with grades of B or higher in all classes.

<b>Required courses</b>	(3 credits)	
ADPR 884	Brands & Branding	3
<b>Elective courses</b>	(9 credits)	<b>9</b>
SPMC 864	Sports Media Relations & Promotions	
SPMC 875	Sports Promotion and Engagement	
SPMC 876	Planning for Sports Event Production	
SPMC 877	Content Strategy in Sports Promotion	
SPMC 878	Social and Digital Media for Sports Promotion	
Credit Hours Subtotal:		<b>12</b>
<b>Total Credit Hours</b>		<b>12</b>