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/](https://www.unl.edu/gradstudies/academics/programs/AHRT-GCER/))
2. Apply for admission ([https://www.unl.edu/gradstudies/admissions/](https://www.unl.edu/gradstudies/admissions/)).
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/](https://graduate.unl.edu/academics/programs/AGRO-GCER/)).
2. Apply for admission. ([https://www.unl.edu/gradstudies/admissions/](https://www.unl.edu/gradstudies/admissions/))
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.

Required Courses (8 credits) 8

- 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

Electives (7 credits) 7

- 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:

2. Apply for admission. ([https://www.unl.edu/gradstudies/admissions/](https://www.unl.edu/gradstudies/admissions/))
3. Consult an advisor to develop a plan of study.
4. All courses applied to the certificate must have been taken within the last 10 years prior to receipt of the certificate.
5. Certificate must be completed within 5 years of admission to program. Complete 15 credit hours as described here.

Required Courses (8 credits) 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

Electives (7 credits) 7

- 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

AGRO 830 Forensic Entomology 3
- 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 [link]
2. Apply for admission [link]
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)
- HORT 824 Plant Nutrition and Nutrient Management (3 credits)
- or HORT 842B Plant Physiology (3 credits)
- HORT 843A Greenhouse Crop Production (3-4 credits)
- or HORT 844A Environmental Nursery Production Practices (3-4 credits)

Electives (6-6 credits)
- HORT 843E Advanced Interiorscaping (3 credits)
- HORT 844B Environmental Stress Physiology (1 credit)
- HORT 888 Entrepreneurship and Enterprise Development (3 credits)
- ENTO 803 Management of Horticultural Crop Insects (3 credits)
- or ENTO 812 Entomology and Pest Management (3 credits)
- or ENTO 813 Biological Control of Pests (3 credits)
- or ENTO 820 Insecticide Toxicology (3 credits)
- AGRO 896 Independent Study (1-6 credits)
- or ENTO 896 Independent Study in Entomology (1-6 credits)
- or HORT 842A Plant Pathology (1-6 credits)

Food Safety and Defense
To earn the Graduate Certificate in Food Safety and Defense:
1. Learn More [link]
2. Apply for Admission [link]
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)
- FDST 871 A Multidisciplinary Overview of Food Safety and Security (Kansas State Univ) (2 credits)
- FDST 805 Food Microbiology (Univ of Nebraska) (3 credits)
- FDST 872 Principles of Hazard Analysis and Critical Control Point System (Kansas State Univ) (2 credits)
- FDST 873 Food-borne Toxicants (Iowa State Univ) (2 credits)
- Electives (3 credits)
- FDST 855 Microbiology of Fermented Foods (Univ of Nebraska, 2 cr) (2 credits)
- FDST 874 Food Laws, Regulations, and the Regulatory Process (Iowa State Univ, 2 cr) (2 credits)
- FDST 875 Rapid Methods in Food Microbiology (Kansas State Univ, 2 cr) (2 credits)

Electives (6 credits)
- HORT 824 Plant Nutrition and Nutrient Management (3 credits)
- or HORT 842B Plant Physiology (3 credits)
- HORT 843K Grassland Monitoring and Assessment (3 credits)
- or HORT 843M Weed Science (3 credits)
- or ENTO 803 Management of Horticultural Crop Insects (3 credits)
- or ENTO 812 Entomology and Pest Management (3 credits)
- or ENTO 813 Biological Control of Pests (3 credits)
- or ENTO 820 Insecticide Toxicology (3 credits)
- AGRO 896 Independent Study (1-6 credits)

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

Grassland Management
To earn the Graduate Certificate in Grassland Management:
1. Learn More [link]
2. Apply for Admission [link]
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)
- AGRO 843 Ecology of Invasive Species (3 credits)
- AGRO 846 Forage Quality (3 credits)
- AGRO 847 Grassland Fire Ecology (3 credits)
- AGRO 848 Grassland Monitoring and Assessment (2 credits)
- AGRO 849 Watershed Management in Grasslands (2 credits)
- AGRO 851 Grassland Plant Identification (2 credits)

Ornamentals, Landscape, and Turf
To earn the Graduate Certificate in Ornamentals, Landscape, and Turf:
1. Learn More [link]
2. Apply for Admission [link]
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)
- HORT 824 Plant Nutrition and Nutrient Management (3 credits)
- or HORT 842B Plant Physiology (3 credits)
- HORT 843K Advanced Arboriculture (3 credits)
- or HORT 843M Weed Science (3 credits)
- Electives (6 credits)
- HORT 814 Turfgrass Disease Management (1 credit)
- HORT 844B Environmental Stress Physiology (1 credit)
- HORT 880 Modified Root Zones (1 credit)
- HORT 888 Entrepreneurship and Enterprise Development (3 credits)
- HORT 813 Turfgrass and Landscape Weed Management (1 credit)
- or HORT 843M Weed Science (1 credit)
- ENTO 803 Management of Horticultural Crop Insects (3 credits)
- or ENTO 812 Entomology and Pest Management (3 credits)
- or ENTO 813 Biological Control of Pests (3 credits)
- or ENTO 820 Insecticide Toxicology (3 credits)
- AGRO 896 Independent Study (1-6 credits)
Graduate Certificates

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 (6 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

Electives (6 credits)

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
- CHEM 824 Applied Problems in Analytical Chemistry 3
- 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)

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 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
- CRPL 990 Planning Studio
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.
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 https://www.unl.edu/dhcert/home (https://www.unl.edu/dhcert/home/).

**Electives (12 credits)**

- ADPR 866 Social Media Theory and Practice 3
- AHIS 806 / ANTH 806 / CLAS 806 Visualizing the Ancient City 3
- ANTH 816 Digital Anthropologies 3
- ANTH 884 Data Analytics in Anthropology 3
- ANTH 886 Digital Heritage 3
- ANTH 946 / ENGL 946 / HIST 946 / MODL 946 Interdisciplinary Readings in Digital Humanities 3
- ENGL 872 / HIST 872 Digital Humanities Practicum 3
- 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.

**Required courses (12 credits)**

- CHEM 821 Analytical Chemistry 3
- or CHEM 824 Applied Problems in Analytical Chemistry 3
- CHEM 825G Chromatographic Separations 3
- CHEM 991A Selected Topics in Analytical Chemistry (other than Biosensors) 1-6
- CHEM 825D Mass Spectrometry (if not counted within core requirements) 3
- CHEM 825G Chromatographic Separations (if not counted within core requirements) 3
- CHEM 991A Selected Topics in Analytical Chemistry (other than Biosensors) 1-6

**Electives (6 credits)**

- 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/).

**Electives (12 credits)**

- ANTH 897 3
- ANTH 895 Internship in Anthropology 3
- ANTH 945 Seminar in Bioanthropology 3

**Forensic Anthropology**

To earn the Graduate Certificate in Forensic Anthropology:

1. Learn More (https://www.unl.edu/gradstudies/academics/programs/FORA-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)**

- ANTH 844 Human Osteology 3
- ANTH 862 Forensic Anthropology 3

**Electives (12 credits)**

- 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 887 3
- ANTH 897 3
- ANTH 895 Internship in Anthropology 3
- ANTH 945 Seminar in Bioanthropology 3

**Forensic Anthropology**

To earn the Graduate Certificate in Forensic Anthropology:

1. Learn More (https://www.unl.edu/gradstudies/academics/programs/FORA-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)**

- ANTH 844 Human Osteology 3
- ANTH 862 Forensic Anthropology 3

**Electives (12 credits)**

- 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 887 3
- ANTH 897 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 credits

- 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 credits

- 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
- CIVE 962 Application of Geographic Information Systems GIS to Transportation 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 credits

- 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 3
  or ANTH 887D Analysis of Archaeological Materials - Archaeofauna 3

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 credits

- 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 credits

- 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.

**Required courses** (6 credits)
- GRBA 851 Business Analytics 3
- ECON 817 Introductory Econometrics 3

**Electives** (6 credits)
- SCMA 851 Predictive Analytics 3
- SCMA 853 Data Mining and Descriptive 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.

**Required Courses** (6 credits)
- FINA 801 Quantitative Methods in Finance 3
- SCMA 851 Predictive Analytics 3

**Electives** (6 credits, choose only one FINA course and one SCMA course)
- 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.

**Required Courses** (6 credits)
- JOMC 820 Financial Communications 3
- GRBA 808 Foundations of Business Strategy 3

**Electives** (6 credits)
- ADPR 850 Public Relations Management and Case Studies 3
  or JGRD 819 Graduate Writing, Reporting and Editing 3
  or GRBA 811 Managerial Finance 3

**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.

**Required Courses** (3 credits)
- GRBA 816 Strategic Human Resource Management 3

**Electives** (9 credits)
- MNGT 863 Compensation Administration 3
- MNGT 864 Talent Acquisition and Staffing 3
- MNGT 866 The Regulatory Environment for Employment and Labor 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.

**Required Courses** (6 credit)
- GRBA 813 Managerial Marketing 3
- GRBA 851 Business Analytics 3

**Electives** (6 credits)
- MRKT 821 Applied Marketing Research 3
- MRKT 824 Advanced Quantitative Analysis in Marketing 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.
### 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/](https://graduate.unl.edu/academics/programs/SIEN-GCER/)).
2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRBA 808</td>
<td>Foundations of Business Strategy</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 853</td>
<td>Advanced Business Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MNGT 818</td>
<td>Organization Designs for Competitive Advantage</td>
<td>3</td>
</tr>
<tr>
<td>ENTR 821</td>
<td>Identifying and Exploring Entrepreneurial Opportunities</td>
<td>3</td>
</tr>
<tr>
<td>ENTR 822</td>
<td>Managing Rapid Growth and Change in Organizations</td>
<td>3</td>
</tr>
<tr>
<td>ENTR 823</td>
<td>Business Plan Development and Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>MNGT 840</td>
<td>Corporate Strategy and Entrepreneurship</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Electives (6 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCMA 831</td>
<td>Advanced Enterprise Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 836</td>
<td>Project Management and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 837</td>
<td>Risk and Simulation Modeling</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 851</td>
<td>Predictive Analytics</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 853</td>
<td>Data Mining and Descriptive Analytics</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 855</td>
<td>Prescriptive Analytics</td>
<td>3</td>
</tr>
</tbody>
</table>

### Strategic Marketing

To earn the Graduate Certificate in Strategic Marketing:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRBA 813</td>
<td>Managerial Marketing</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 821</td>
<td>Applied Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 822</td>
<td>Survey of Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 826</td>
<td>Services Marketing</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 828</td>
<td>Sports Marketing</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 830</td>
<td>Strategic Issues in Marketing Communication</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 835</td>
<td>Marketing Channels and Distribution</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 841</td>
<td>Digital Marketing and Electronic Commerce</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 855</td>
<td>Marketing and Globalization</td>
<td>3-6</td>
</tr>
</tbody>
</table>

#### Electives (9 credits)

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

### Supply Chain Analytics

To earn the Graduate Certificate in Supply Chain Analytics:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRBA 815</td>
<td>Supply Chain Management Strategies</td>
<td>3</td>
</tr>
<tr>
<td>GRBA 851</td>
<td>Business Analytics</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 831</td>
<td>Advanced Enterprise Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 836</td>
<td>Project Management and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 837</td>
<td>Risk and Simulation Modeling</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 851</td>
<td>Predictive Analytics</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 853</td>
<td>Data Mining and Descriptive Analytics</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 855</td>
<td>Prescriptive Analytics</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Electives (6 credits)

- GRBA 815 and GRBA 851 plus 2 of the other 6 courses listed.

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

### Supply Chain Management Systems

To earn the Graduate Certificate in Supply Chain Management Systems:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](https://www.unl.edu/gradstudies/admissions/steps/)).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours (grade must be a B or better).

#### Required Courses (3 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRBA 815</td>
<td>Supply Chain Management Strategies</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 831</td>
<td>Advanced Enterprise Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 832</td>
<td>Planning and Controlling Supply Chain Systems</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 834</td>
<td>Advanced Topics in Lean Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 836</td>
<td>Project Management and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 839</td>
<td>Global Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 844</td>
<td>Managing Logistics in the Supply Chain</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 847</td>
<td>Information Technologies for Operations and Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Electives (9 credits)

- GRBA 815 and GRBA 851 plus 2 of the other 6 courses listed.

### Education and Human Sciences

#### Community College Leadership

To earn the Graduate Certificate in Community College Leadership:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAD 923</td>
<td>The Community/Junior College</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 929</td>
<td>Organizational Theory and Change</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 935</td>
<td>Workforce, Economic, and Community Development</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 934</td>
<td>Teaching and Learning in the Community College</td>
<td>3</td>
</tr>
<tr>
<td>EDAD 912B</td>
<td>Emerging Issues in Community College Leadership</td>
<td>3</td>
</tr>
</tbody>
</table>

**Early Childhood & Family Policy**

To earn the Graduate Certificate in Early Childhood & Family Policy:

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 C or better). All courses below are offered sequentially.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 831</td>
<td>ECFP: History, Development, and Equity in Shaping Early Childhood Policy</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 832</td>
<td>ECFP: Using a Policy Framework to Examine Early Childhood Services and Issues</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 906</td>
<td>ECFP: Policy Research in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 907</td>
<td>ECFP: Policy Leadership and Advocacy in Early Childhood</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credit Hours**

12

**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).

**Required Courses (12 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 860</td>
<td>Issues in Early Childhood Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 861</td>
<td>Infants with Disabilities and Home Visiting</td>
<td>3</td>
</tr>
<tr>
<td>or SPED 862</td>
<td>Preschool Children with Disabilities</td>
<td></td>
</tr>
<tr>
<td>SPED 960</td>
<td>Family and School Collaboration in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 863</td>
<td>Medically Fragile infants</td>
<td>3</td>
</tr>
<tr>
<td>or SPED 882</td>
<td>Severe Multiple Disabilities: Methods</td>
<td></td>
</tr>
</tbody>
</table>

**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.

**Required Courses (10-12 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 802</td>
<td>Contemporary Children’s Literature: Principles and Practices</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 854</td>
<td>Multiethnic Literature for Children &amp; Adolescents</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 817</td>
<td>Emerging Reading and Language</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 813A</td>
<td>Second Language Acquisition</td>
<td>1-3</td>
</tr>
<tr>
<td>or TEAC 811</td>
<td>Reading Processes and Practices</td>
<td></td>
</tr>
</tbody>
</table>

**Electives (6-8 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 874</td>
<td>Assessment in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 889</td>
<td>Child Behavior and Development</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 811</td>
<td>Reading Processes and Practices</td>
<td>1-6</td>
</tr>
<tr>
<td>TEAC 836A</td>
<td>Professional Development: Literacy Coaching</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 890</td>
<td>Workshop Seminar (section must be approved by advisory committee)</td>
<td>1-12</td>
</tr>
<tr>
<td>SPED 815</td>
<td>Reading and Writing Disabilities: Elementary Students</td>
<td>2</td>
</tr>
<tr>
<td>or SPED 815A</td>
<td>Practicum in Reading and Writing Disabilities: Elementary</td>
<td></td>
</tr>
</tbody>
</table>

**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)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 865</td>
<td>Behavioral Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 991</td>
<td>Seminar in Educational Psychology and Measurements</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 922</td>
<td>Mind, Brain, and Education</td>
<td>3</td>
</tr>
<tr>
<td>SLPA 995</td>
<td>Doctoral Seminar (Neural Basis of Reading)</td>
<td>3</td>
</tr>
<tr>
<td>SLPA 995</td>
<td>Doctoral Seminar (Neuroimaging &amp; Language Disorders)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Courses Taught at UNMC**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSC 820</td>
<td>Methods in Neuroscience</td>
<td></td>
</tr>
<tr>
<td>NSC 932</td>
<td>Systems Neuroscience</td>
<td></td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 821</td>
<td>FFPLN: Insurance Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 823</td>
<td>FFPLN: Estate Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 828</td>
<td>FFPLN: Retirement Planning, Employee Benefits</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 836</td>
<td>FFPLN: Financial Planning Case Studies</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 840</td>
<td>FFPLN: Personal Income Taxation</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 883</td>
<td>FFPLN: Investing for the Family’s Future</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives (6 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 821</td>
<td>FFPLN: Insurance Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 823</td>
<td>FFPLN: Estate Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 826</td>
<td>FFPLN: Military Personal Financial Readiness</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 828</td>
<td>FFPLN: Retirement Planning, Employee Benefits</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 840</td>
<td>FFPLN: Personal Income Taxation</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 883</td>
<td>FFPLN: Investing for the Family’s Future</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 897B</td>
<td>Practicum in Family Financial Planning</td>
<td>3-6</td>
</tr>
</tbody>
</table>

### 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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 825</td>
<td>FCSE: Reading in the Content Area</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 822</td>
<td>FFPLN: Financial Counseling</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 824</td>
<td>FFPLN: Fundamentals of Financial Planning</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 841</td>
<td>FFPLN: Housing/Real Estate</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives (6 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 821</td>
<td>FFPLN: Insurance Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 823</td>
<td>FFPLN: Estate Planning for Families</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 826</td>
<td>FFPLN: Military Personal Financial Readiness</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 828</td>
<td>FFPLN: Retirement Planning, Employee Benefits</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 840</td>
<td>FFPLN: Personal Income Taxation</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 883</td>
<td>FFPLN: Investing for the Family’s Future</td>
<td>3</td>
</tr>
</tbody>
</table>

### Mathematics Education

To earn the Graduate Certificate in Mathematics Education:

1. Learn More (https://www.unl.edu/gradstudies/academics/programs/MAED-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.

### Required Courses (15 credits - 12 must be from TEAC)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 807A</td>
<td>Equitable Practices in Mathematics Education: Identity, Access, &amp; Equity in Mathematics Education</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 807C</td>
<td>Equitable Practices in Mathematics Education: Mathematics Classroom Discourse</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 808G</td>
<td>Improvement of Instruction in School Mathematics: Manipulatives in Mathematics Education</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 808J</td>
<td>Improvement of Instruction in School Mathematics Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 836G</td>
<td>Professional Development: Mathematics Education Leadership</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 848G</td>
<td>Introduction to Curriculum Studies: Mathematics Curriculum Analysis &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 849G</td>
<td>Studies in Assessment and Leadership for Learning: Assessment in Mathematics Education</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 856P</td>
<td>Learning Models: Theories and Applications Specific to Mathematics Instruction</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 880E</td>
<td>Teaching with Technology: Instructional Technology in Mathematics</td>
<td>1-3</td>
</tr>
</tbody>
</table>

### Electives (9 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 800P</td>
<td>Number and Operation for K-3 Mathematics Specialists</td>
<td>3</td>
</tr>
<tr>
<td>MATH 802P</td>
<td>Geometry, Measurement, and Algebraic Thinking for K-3 Mathematics Specialists</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>TEAC 848G</td>
<td>Introduction to Curriculum Studies: Mathematics Curriculum Analysis &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 849G</td>
<td>Studies in Assessment and Leadership for Learning: Assessment in Mathematics Education</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 880E</td>
<td>Teaching with Technology: Instructional Technology in Mathematics</td>
<td>1-3</td>
</tr>
<tr>
<td>TEAC 856P</td>
<td>Learning Models: Theories and Applications Specific to Mathematics Instruction</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 907</td>
<td>Seminar in Elementary School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 890A</td>
<td>Workshop Seminar: Early Childhood</td>
<td>1-3</td>
</tr>
<tr>
<td>MATH 800T</td>
<td>Mathematics as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>MATH 802T</td>
<td>Functions, Algebra, and Geometry for Middle Level Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 803P</td>
<td>Algebraic Thinking in the Elementary Classroom</td>
<td>3</td>
</tr>
<tr>
<td>MATH 804P</td>
<td>Problem Solving and Critical Thinking in the Elementary Classroom</td>
<td>3</td>
</tr>
<tr>
<td>MATH 804T</td>
<td>Experimentation, Conjecture and Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>MATH 805T</td>
<td>Discrete Mathematics for Middle Level Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 806T</td>
<td>Number Theory and Cryptology for Middle Level Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 807T</td>
<td>Using Mathematics to Understand Our World</td>
<td>3</td>
</tr>
<tr>
<td>MATH 808T</td>
<td>Concepts of Calculus for Middle Level Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 810T</td>
<td>Algebra for Algebra Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 811T</td>
<td>Functions for High School Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 812T</td>
<td>Geometry for Geometry Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 814T</td>
<td>Linear Algebra for Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 816T</td>
<td>Math in the City for Teachers</td>
<td>3</td>
</tr>
<tr>
<td>STAT 812T</td>
<td>Statistics for High School Teachers</td>
<td>3</td>
</tr>
</tbody>
</table>

### Medical Family Therapy

To earn the Graduate Certificate in Medical Family Therapy:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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. Courses from the UNL Marriage and Family Therapy Program which fulfill this include: CYAF 872, 881, 882, 883, 888, 980, 984.
4. Complete 15 (option A) or 45 (option B) credit hours as described here.

### Core Courses and Practicum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 951</td>
<td>Theoretical Foundations of Marriage and Family Therapy</td>
<td>3</td>
</tr>
<tr>
<td>FMED 741</td>
<td>Theory and Practice of Medical Family Therapy (UNMC)</td>
<td>3</td>
</tr>
<tr>
<td>FMED 742</td>
<td>Families, Health, and Illness (UNMC)</td>
<td>3</td>
</tr>
<tr>
<td>FMED 743</td>
<td>Applied Medical Family Therapy (UNMC)</td>
<td>3</td>
</tr>
<tr>
<td>FMED 744</td>
<td>Clinical Practicum (UNMC)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Other Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 952</td>
<td>Psychopathology and Dysfunctional Interactions</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 954</td>
<td>Assessment in Family Therapy</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 955</td>
<td>Clinical Family Therapy (Must take both 955A and 955B)</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 956</td>
<td>Couples and Sex Therapy</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 953</td>
<td>Issues and Ethics for Family Professionals</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 865</td>
<td>Research Design and Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

### Individual development and family relations (9 cr, courses vary)

### Mixed Methods Research

To earn the Graduate Certificate in Mixed Methods Research:

2. Apply for Admission ([https://www.unl.edu/gradstudies/admissions/steps/](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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDPS 859</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 860</td>
<td>Applications of Selected Advanced Statistics</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 941</td>
<td>Intermediate Statistics: Experimental Methods</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 942</td>
<td>Intermediate Statistics: Correlational Methods</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 971</td>
<td>Structural Equation Modeling</td>
<td>3</td>
</tr>
<tr>
<td>EDPS 972</td>
<td>Multivariate Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

### Measurement: Choose 1 course (3 cr)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
</table>
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 12 credit hours as described here: three required courses and one elective approved by the Certificate Program Advisor.

**Social Justice and Diversity Education**

**Required Courses**

- EDPS 870 Introduction to Educational and Psychological Measurement 3
- EDPS 970 Theory and Methods of Educational Measurement 3
- EDPS 900K Qualitative Approaches to Educational Research 3
- EDPS 935 Seminar in Qualitative Research 3
- EDPS 930A Ethnographic Methods 3
- EDPS 930D Discourse Analysis Across School, Home and Community Settings 3

**Qualitative Methods: Choose 1 course (3 cr)**

- EDPS 900K Qualitative Approaches to Educational Research 3
- EDPS 935 Seminar in Qualitative Research 3
- EDPS 930A Ethnographic Methods 3

**Mixed Methods: Choose 1 course (3 cr)**

- EDPS 936 Mixed Methods Research 3

**Elective (3 credits)**

Choose one additional course from the Statistics, Measurement, or Qualitative Methods sections.

**Nutrition, Non-coding RNAs, and Extracellular Vesicles (N2V)**

To earn the Graduate Certificate in Nutrition, Non-coding RNAs, and Extracellular Vesicles (N2V):

1. Learn More (https://www.unl.edu/gradstudies/academics/programs/NNEV-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 credits hours as listed below with a grade of B or better.

**Required Courses**

- RNA Biology Competency (3 credits)
- BIOS 945 RNA Biology 3
- Bioinformatics Competency (3 credits)
- 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
- Human Nutrition Competency (2-3 credits)
- NUTR 820 Molecular Nutrition 3
- NUTR 821 Molecular Nutrition Techniques 3
- NUTR 950 Integrated Principles of Human Nutrition 3
- Cell Biology Competency (3 credits)
- BIOS 820 Molecular Genetics 3
- Health and Disease Competency (3 credits)
- BIOC 935 Metabolic Function and Dysfunction 3
- Research Ethics & Management (1 or 3 credits) 1-3
- AGRO 803 Scientific Writing and Communication 3
- BIOS 809 Professionalism 1

**Electives (3-9 credits)**

- TEAC 807A Equitable Practices in Mathematics Education: Identity, Access, & Equity in Mathematics Education 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 15 credit hours as described here: two required courses and three elective approved by the Certificate Program Advisor.

**Required Courses**

- TEAC 944B Critical, Anti-colonial, & Decolonizing Theories in Education 3
- TEAC 949B Critical, Anti-colonial, & Decolonizing Theories in Education 3
- TEAC 936 Seminar in Democratic Education 3
- TEAC 944B Special Topics in Curriculum 1-3
- TEAC 949B Critical, Anti-colonial, & Decolonizing Theories in Education 3
- TEAC 930M Introduction to Multimodal Textual Analysis 3
- TEAC 936 Seminar in College Teaching 1-3
- TEAC 944 Seminar in Curriculum Studies 1-3
## Required Courses (9 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMFD 818</td>
<td>Quilts, History, Culture</td>
</tr>
<tr>
<td>TMFD 905A</td>
<td>Advanced Problems: Textiles</td>
</tr>
<tr>
<td>TMFD 905D</td>
<td>Advanced Problems: Design</td>
</tr>
</tbody>
</table>

## Electives (3 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMFD 997</td>
<td>Internship</td>
</tr>
<tr>
<td>TMFD 978</td>
<td>Seminar in Textile History (Various topics offered as 1-week summer seminars. E.g., Colonial Revival Quilts, Quilts of the Depression Era, A Century of Quilts in Women’s Lives, 18th and 19th Century Dyeing and Printing Techniques, Quilts of India and Pakistan, Repair and Stabilization of Quilts.)</td>
</tr>
<tr>
<td>TMFD 890</td>
<td>Workshop/Seminar (Craft, Culture, and Fashion)</td>
</tr>
</tbody>
</table>

## Response to Intervention: Reading

### Required Courses (9 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 811A</td>
<td>Teaching Reading</td>
</tr>
<tr>
<td>TEAC 841</td>
<td>Content Area Reading, Grades 4-12</td>
</tr>
<tr>
<td>TEAC 802</td>
<td>Contemporary Children’s Literature: Principles and Practices</td>
</tr>
<tr>
<td>or TEAC 839</td>
<td>Literature for Adolescents</td>
</tr>
</tbody>
</table>

### Electives

Choose two courses (6-7 credits), at least one of the two elective courses must be a TEAC course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 806 and TEAC 806A</td>
<td>Reading and Writing Disabilities: Adolescents</td>
</tr>
<tr>
<td>TEAC 806A</td>
<td>Reading Center Practicum II</td>
</tr>
<tr>
<td>TEAC 811</td>
<td>Reading Processes and Practices (other than Response to Intervention)</td>
</tr>
<tr>
<td>TEAC 817</td>
<td>Emerging Reading and Language</td>
</tr>
<tr>
<td>TEAC 836A</td>
<td>Professional Development: Literacy Coaching</td>
</tr>
<tr>
<td>TEAC 838</td>
<td>Linguistics in Language and Learning Contexts</td>
</tr>
<tr>
<td>TEAC 854</td>
<td>Multiethnic Literature for Children &amp; Adolescents</td>
</tr>
<tr>
<td>TEAC 886</td>
<td>Assessment, Evaluation, and Instruction of At-Risk Readers (specific section must be approved for inclusion by the advisory committee)</td>
</tr>
<tr>
<td>SPED 886A</td>
<td>Special Topics in Literacy Assessment</td>
</tr>
</tbody>
</table>

## 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.

### Required Courses (12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 846</td>
<td>Visual Impairments: Characteristics</td>
</tr>
<tr>
<td>SPED 872</td>
<td>Deaf or Hard of Hearing: Characteristics</td>
</tr>
<tr>
<td>SPED 960</td>
<td>Family and School Collaboration in Special Education</td>
</tr>
<tr>
<td>or SPED 860</td>
<td>Issues in Early Childhood Special Education</td>
</tr>
<tr>
<td>or SPED 861</td>
<td>Infants with Disabilities and Home Visiting</td>
</tr>
<tr>
<td>or SPED 863</td>
<td>Medically Fragile infants</td>
</tr>
<tr>
<td>SPED 852</td>
<td>Visual Impairments: Methods</td>
</tr>
<tr>
<td>or SPED 873</td>
<td>Deaf or Hard of Hearing: Content Methods</td>
</tr>
</tbody>
</table>

## Teaching English to Speakers of Other Languages

To earn the Graduate Certificate in Teaching English to Speakers of Other Languages:

1. Learn More (https://www.unl.edu/gradstudies/academics/programs/TESO-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 B or better grade and no less than a 3.25 GPA.

### Required Courses (9 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 813A</td>
<td>Second Language Acquisition</td>
</tr>
<tr>
<td>TEAC 813K</td>
<td>Linguistics for Language Teachers</td>
</tr>
<tr>
<td>TEAC 813P</td>
<td>Teaching English as an International Language</td>
</tr>
<tr>
<td>or TEAC 813B</td>
<td>ESL: Teaching and Curriculum</td>
</tr>
</tbody>
</table>

### Electives (3 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 813D</td>
<td>World Languages Assessment</td>
</tr>
<tr>
<td>TEAC 813E</td>
<td>Special Topics in TESOL</td>
</tr>
<tr>
<td>TEAC 813J</td>
<td>Intercultural Communication</td>
</tr>
<tr>
<td>TEAC 813M</td>
<td>Teaching Multilingual Learners in Content Areas</td>
</tr>
<tr>
<td>TEAC 833A</td>
<td>Comparative Education Survey</td>
</tr>
<tr>
<td>TEAC 833B</td>
<td>Comparative Education: Special Topics/Travel Study</td>
</tr>
<tr>
<td>TEAC 897E</td>
<td>Student Teaching Internship: English as a Second Language</td>
</tr>
<tr>
<td>TEAC 838</td>
<td>Linguistics in Language and Learning Contexts</td>
</tr>
<tr>
<td>TEAC 921D</td>
<td>Seminar in Literacy Studies: Language, Culture, and Education</td>
</tr>
</tbody>
</table>
### 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/](https://www.unl.edu/gradstudies/admissions/)).
3. Consult an advisor to develop a plan of study.
4. Complete 15 credit hours as described below.

#### Required Courses (15 credits - choose 15 credits from the following)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAC 922</td>
<td>Seminar in the Learning and Teaching of Foreign Languages</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922C</td>
<td>The Interpretive Mode: Reading and Listening in the German Language Classroom (formerly 922B)</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922G</td>
<td>Interpersonal and Presentational Writing in the German Language Classroom (formerly 922F)</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922P</td>
<td>Assessment in the German Language Classroom (formerly 922O)</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922T</td>
<td>Planning in the German Language Classroom (formerly 922S)</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922X</td>
<td>Technology-Enhanced German Language Instruction (formerly 922W)</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922E</td>
<td>Teaching for Intercultural Communicative Competence in the German Language Classroom</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922L</td>
<td>Interpersonal and Presentational Speaking in the German Language Classroom</td>
<td>3</td>
</tr>
<tr>
<td>TEAC 922Z</td>
<td>Teaching for Intercultural Communicative Competence in the Foreign Language Classroom</td>
<td>3</td>
</tr>
</tbody>
</table>

### 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/](https://www.unl.edu/gradstudies/admissions/)).
3. Consult an advisor to develop a plan of study.
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.

#### Required Courses (15 credits - choose 15 credits from the following)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 871</td>
<td>YD: Foundations of Youth Development</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 872</td>
<td>YD: Youth Development</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 866</td>
<td>YD: Youth Mental Health</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 875</td>
<td>YD: Youth in Cultural Contexts (Michigan State Univ)</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 878</td>
<td>YD: Youth Policy (Michigan State Univ)</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 842</td>
<td>YD: Grants &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 863</td>
<td>YD: Youth Professionals as Consumers of Research (UNL)</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 866</td>
<td>YD: Youth Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 878</td>
<td>YD: Youth Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

### 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/](https://www.unl.edu/gradstudies/admissions/)).
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.

#### Youth Development Specialist:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 861</td>
<td>YD: Foundations of Youth Development</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 872</td>
<td>YD: Youth Development</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 869</td>
<td>FAM/YD: Administration and Program Management</td>
<td>9</td>
</tr>
<tr>
<td>CYAF 873</td>
<td>FAM/YD: Program Design, Evaluation and Implementation</td>
<td>9</td>
</tr>
<tr>
<td>CYAF 842</td>
<td>YD: Grants &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 863</td>
<td>YD: Youth Professionals as Consumers of Research (UNL)</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 866</td>
<td>YD: Youth Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 878</td>
<td>YD: Youth Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Youth Program Management & Evaluation:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYAF 861</td>
<td>YD: Foundations of Youth Development</td>
<td>6</td>
</tr>
<tr>
<td>CYAF 869</td>
<td>FAM/YD: Administration and Program Management</td>
<td>9</td>
</tr>
<tr>
<td>CYAF 873</td>
<td>FAM/YD: Program Design, Evaluation and Implementation</td>
<td>9</td>
</tr>
<tr>
<td>CYAF 842</td>
<td>YD: Grants &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 863</td>
<td>YD: Youth Professionals as Consumers of Research (UNL)</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 866</td>
<td>YD: Youth Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>CYAF 878</td>
<td>YD: Youth Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

### 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/](https://www.unl.edu/gradstudies/admissions/)).
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.

**Required Courses (3 credits)**
- MECH 872 Additive Manufacturing 3

**Electives (9 credits)**
- 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.

**Required Courses (6 credits)**
- EMGT 805 Teamwork for Organizational Commitment and Collaboration 3
- EMGT 806 Decision and Risk Analysis 3

**Electives (9 credits)**
- EMGT 803 Management of Engineering and Technology 3
- EMGT 804 Human Relations in Engineering and Sciences 3
- EMGT 807 Project Management 3
- EMGT 808 Engineering Leadership 3
- EMGT 811 Legal Considerations for Engineering Managers 3
- EMGT 819 Applied Management Science for Engineering and Operations 3
- EMGT 820 Quantitative Analysis for Engineering Management Decisions 3
- EMGT 891 Special Topics in Engineering Management 3
- EMGT 901 Total Quality Management Using Six Sigma Techniques 3
- EMGT 905 Strategic Management and Planning 3

**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.

**Required Courses (12 credits)**
- ADPR 830 Strategic Communications: Advertising Issues and Strategies 3
- ADPR 834 Digital Insight & Analytics 3
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADPR 850</td>
<td>Public Relations Management and Case Studies</td>
<td>3</td>
</tr>
<tr>
<td>ADPR 866</td>
<td>Social Media Theory and Practice</td>
<td>3</td>
</tr>
</tbody>
</table>