

GRADUATE CERTIFICATES

Agricultural Sciences and Natural Resources

Advanced Horticulture

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

1. Learn More. (http://www.unl.edu/gradstudies/prospective/programs/Cert_Floriculture/)
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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.

Choose from

HORT 824	Plant Nutrition and Nutrient Management	3
HORT 843E	Advanced Interiorscaping	3
HORT 843K	Advanced Arboriculture	3
HORT 844A	Environmental Nursery Production Practices	3
HORT 844E	General Viticulture	3
HORT 888	Entrepreneurship and Enterprise Development	3
HORT 842B	Plant Physiology	3
HORT 843A	Greenhouse Crop Production	4

Floriculture and Nursery Production Management

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

1. Apply and get admitted toward this certificate objective. (http://www.unl.edu/gradstudies/prospective/programs/Cert_Floriculture/)
2. Consult an advisor to develop a plan of study.
3. 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.

Core Courses (min 5 cr)

HORT 824	Plant Nutrition and Nutrient Management or HORT 842 Plant Physiology	
HORT 843A	Greenhouse Crop Production or HORT 844A Environmental Nursery Production Practices	4

Electives (min 7 cr)

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_FoodSafety/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete a minimum of 12 credit hours, with 9 credit hours in core courses and a minimum of 3 elective credit hours.

Core Courses (9 cr)

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 (minimum 3 cr)		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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_GrasslandManagement/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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. Coursework may be transferred in on a case-by-case basis with approval of the student's advisor.

Available Courses

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_Landscape/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Core Courses (minimum 6 cr)

HORT 824	Plant Nutrition and Nutrient Management	3
or HORT 842B	Plant Physiology	
HORT 843K	Advanced Arboriculture	3

Electives (minimum 6 cr)

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 Ornamentals, Landscape, and Turf:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/PRLE-GCER/>).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Six credits of required coursework include:

ALEC 877	Leadership and Motivation	3
ALEC 807	Supervisory Leadership	3

Students will be able to choose 6 additional elective credits from the following list:

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Core Courses (9 cr)

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 (minimum 3 cr)

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

Arts and Sciences

Digital Humanities

To earn the Graduate Certificate in Digital Humanities:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_DigitalHumanities/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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. The certificate program is comprised of interdisciplinary coursework between: Anthropology; Art, Art History & Design; Classics & Religious Studies; English; History; Modern Languages; and University Libraries. Two specific courses are required; the remaining six credit hours may be drawn from courses approved by the Digital Humanities Program Coordinator Adrian S. Wisnicki awisnicki2@unl.edu. For further information about the certificate, see <https://www.unl.edu/dhcert/home> (<https://www.unl.edu/dhcert/home/>).

Required Courses

ENGL 872 / HIST 872 / MODL 872 / ANTH 871	Digital Humanities Practicum	3
ANTH 946 / ENGL 946 / HIST 946 / MODL 946	Interdisciplinary Readings in Digital Humanities	3
Example Electives (6 cr needed)		
ANTH 861 / CLAS 861 / GEOG 861 / HIST 861	Geospatial Approaches in Digital Humanities and Social Sciences	3
ANTH 886	Digital Heritage	3
ENGL 877	Advanced Topics in Digital Humanities	3
ENGL 878	Digital Archives and Editions	3
HIST 970	Seminar in Digital History	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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours.

ANTH 895	Internship in Anthropology	1-6
ANTH 844	Human Osteology	3
ANTH 884	Data Analytics in Anthropology	3
ANTH 862	Forensic Anthropology	3
ANTH 887D	Analysis of Archaeological Materials - Archaeofauna	3
ANTH 843	Dental Anthropology	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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 22 credit hours and a comprehensive examination. These must include the following unless a student can demonstrate that he/she has previously taken equivalent courses or has professional experience that would provide equivalent training.

Core Courses

GEOG 812 / NRES 812	Introduction to Geographic Information Systems	4
GEOG 818 / NRES 818	Introduction to Remote Sensing	4

GEOG 827	Introduction to the Global Positioning System (GPS)	2
GEOG 898	Research	1-6
Electives		
GEOG 817	Web GIS	3
GEOG 819 / AGRO 819 / GEOL 819	Applications of Remote Sensing in Agriculture and Natural Resources	4
GEOG 820	Digital Image Analysis of Remote Sensing Data	4
GEOG 822	Advanced Techniques in Geographic Information Systems	4
GEOG 844	Geo-demographic and Geographic Information Systems (GIS)	3
GEOG 922	Seminar in Geographic Information Systems (GIS)	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 895	Planning Internship	1-4
CRPL 832	Advanced Spatial Analysis with GIS	3
CRPL 833	GIS in Environmental Design and Planning	3
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 18 credit hours.

ANTH 818	Ethnology and Museums	3
ANTH 886	Digital Heritage	3
ANTH 887	Analysis of Archaeological Materials	3
ANTH 895	Internship in Anthropology	1-6
ANTH 898	Research	1-6
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 5 courses as listed below for a total of 15-18 credit hours, which may include up to 6 cr outside the English Department.

Required: Take at least one

ENGL 857A	Composition and Rhetorical Theory
ENGL 957	Composition Theory and Practice
ENGL 957B	Nebraska Writing Project

Electives in English

ENGL 857	Composition Theory and Practice
ENGL 857B	Nebraska Writing Project
ENGL 875	Rhetoric
ENGL 875A	Rhetorical Theory: Rhetoric of Women Writers
ENGL 895	Internship in Teaching English
ENGL 895A	Nebraska Writing Project Internship
ENGL 880	Writing Center Theory, Practice, and Research
ENGL 882	Literacy Issues and Community
ENGL 973	Seminar in Literacy Studies
ENGL 976	Seminar in Rhetorical Theory
ENGL 992B	Place Conscious Teaching

Other Electives (maximum 6 cr)

TEAC 813	Studies in Teaching English as a Second Language
TEAC 818	Teaching Writing in K-12 Schools
TEAC 838	Linguistics in Language and Learning Contexts
TEAC 840	Culture and Schooling
TEAC 921	Seminar in Literacy Studies
TEAC 944A	Curriculum as Aesthetic Text
TEAC 950	Contextual Research in English/Language Arts
TEAC 952	Language and Learning
TEAC 953	Seminar on Writing in the Curriculum

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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. (Exception: Certificate applicants admitted in 2014 may begin the sequence with ECON 817 and take GRBA 851 in the summer.)

Must complete 4 courses

Required courses		
GRBA 851	Business Analytics	3
ECON 817	Introductory Econometrics	3
Choose one or both of the following:		
SCMA 851	Predictive Analytics	3
SCMA 853	Data Mining and Descriptive Analytics	3

Choose at most one of the following:

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 Communications

To earn the Graduate Certificate in Financial Communications:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/FNCO-GCER/>).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete the required courses.

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete the required courses.

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete the required courses.

Core Courses

GRBA 813	Managerial Marketing	3
GRBA 851	Business Analytics	3
Elective Courses: Select two		
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

Strategic Marketing

To earn the Graduate Certificate in Supply Chain Analytics:

1. Learn More (<https://www.unl.edu/gradstudies/academics/programs/SCAN-GCER/>).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

GRBA 815	Supply Chain Management Strategies	3
GRBA 851	Business Analytics	3
Electives: take 2 of the following		
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 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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

GRBA 815	Supply Chain Management Strategies	3
GRBA 851	Business Analytics	3
Electives: take 2 of the following		
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 12 credit hours: GRBA 815 plus 3 of the other 4 courses listed, with a grade of C or better in each.

Required

GRBA 815	Supply Chain Management Strategies	3
Elective: Take 3 of the following		
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

EDAD 923	The Community/Junior College	3
EDAD 929	Organizational Theory and Change	3
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

Early Childhood Special Education

To earn the Graduate Certificate in Early Childhood Special Education:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_EarlyChildhoodSpecialEd/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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, with grades of B= or higher in all courses.

Required Courses

SPED 860	Issues in Early Childhood Special Education	3
SPED 861	Infants with Disabilities and Home Visiting	3
or SPED 862	Preschool Children with Disabilities	
SPED 960	Family and School Collaboration in Special Education	3
SPED 863	Medically Fragile infants	3
or SPED 882	Severe Multiple Disabilities: Methods	

Early Literacy

To earn the Graduate Certificate in Early Literacy:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_EarlyLiteracy/).

2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

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	Second Language Acquisition	1-3
or TEAC 811	Reading Processes and Practices	
Electives (choose 2)		
CYAF 874	Assessment in Early Childhood	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	Reading and Writing Disabilities: Elementary Students	2
or SPED 815A	Practicum in Reading and Writing Disabilities-Elementary	

Family Financial Planning

To earn the Graduate Certificate in Family Financial Planning:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_FamilyFinancialPlanning/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

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

Financial & Housing Counseling

To earn the Graduate Certificate in Financial & Housing Counseling:

1. Learn More. (http://www.unl.edu/gradstudies/prospective/programs/Cert_FinHousingCounseling/)
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

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
Electives: Choose 2 courses (6 cr)		
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_MathSpecialist/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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: the prerequisite course, then the 5 required courses.

Required Courses

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

Elective Courses (9 credits)

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

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Choose FIVE (15 credits) courses from the following list of courses. *At least FOUR (12 credits) must be TEAC courses:

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
TEAC 856P	Learning Models: Theories and Applications Specific to Mathematics Instruction	3
TEAC 907	Seminar in Elementary School Mathematics	3
CYAF 890A	Workshop Seminar: Early Childhood	1-3
MATH 800T	Mathematics as a Second Language	3
MATH 802T	Functions, Algebra, and Geometry for Middle Level Teachers	3
MATH 803P	Algebraic Thinking in the Elementary Classroom	3
MATH 804P	Problem Solving and Critical Thinking in the Elementary Classroom	3

MATH 804T	Experimentation, Conjecture and Reasoning	3
MATH 805T	Discrete Mathematics for Middle Level Teachers	3
MATH 806T	Number Theory and Cryptology for Middle Level Teachers	3
MATH 807T	Using Mathematics to Understand Our World	3
MATH 808T	Concepts of Calculus for Middle Level Teachers	3
MATH 810T	Algebra for Algebra Teachers	3
MATH 811T	Functions for High School Teachers	3
MATH 812T	Geometry for Geometry Teachers	3
MATH 814T	Linear Algebra for Teachers	3
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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_MedicalFamilyTherapy/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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. 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

CYAF 951	Theoretical Foundations of Marriage and Family Therapy	3
FMED 741:	Theory and Practice of Medical Family Therapy (UNMC)	3
FMED 742:	Families, Health, and Illness (UNMC)	3
FMED 743:	Applied Medical Family Therapy (UNMC)	3
FMED 744:	Clinical Practicum (UNMC)	3

Other Required Courses		
CYAF 952	Psychopathology and Dysfunctional Interactions	3
CYAF 954	Assessment in Family Therapy	3
CYAF 955	Clinical Family Therapy (Must take both 955A and 955B)	3
CYAF 956	Couples and Sex Therapy	3
CYAF 953	Issues and Ethics for Family Professionals	3
CYAF 865	Research Design and Methods	3
Individual development and family relations (9 cr, courses vary)		

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Submit the following additional materials:
 - a. GRE scores
 - b. A personal statement addressing the reason for pursuing the certificate
 - c. A CV or resume
 - d. Three letters of recommendation (for applicants not currently pursuing a graduate degree at UNL) or one letter of recommendation from the applicant's current academic advisor (for applicants currently pursuing another graduate degree at UNL)
 - e. A completed Course of Studies form (https://www.unl.edu/gradstudies/docs/Mixed_Methods_Research_Certificate-Course_of_Studies.pdf) that lists the proposed courses to completed the certificate. Participants must complete five measurement and modeling courses with at least one course from the Measurement section and at least two courses from the Modeling section. See EDPS QQPM courses for details about when courses are offered. With approval, students may transfer in three credit hours towards the Electives requirement; credit hours must be from an accredited institution. If there are questions, please consult an advisor in the EDPS QQPM program.
4. Upon admission, complete 15 credit hours as described here, with a grade of B or better in each course.

Statistics: Choose 1 course (3 cr)		
EDPS 859	Statistical Methods ¹	3
EDPS 860	Applications of Selected Advanced Statistics ¹	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)		
EDPS 870	Introduction to Educational and Psychological Measurement ¹	3

EDPS 970	Theory and Methods of Educational Measurement	3
Qualitative Methods: Choose 1 course (3 cr)		
EDPS 900K	Qualitative Approaches to Educational Research ¹	3
EDPS 935	Seminar in Qualitative Research ¹	3
EDPS 930A	Ethnographic Methods	3
EDPS 930D	Discourse Analysis Across School, Home and Community Settings	3
Mixed Methods: Choose 1 course (3 cr)		
EDPS 936	Mixed Methods Research ¹	3
Elective: 1 course (3 cr)		

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

¹ EDPS 859, EDPS 860, EDPS 870, EDPS 900K, EDPS 935, and EDPS 936 may be completed online.

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. [Course and credit hour requirements coming soon...]

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Choose 2 (6 credits) from the following courses options:

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

Choose 3 (9 credits) from the following Course options:

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_QuiltStudies/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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.

Required Courses

TMFD 818	Quilts, History, Culture	3
TMFD 905A	Advanced Problems: Textiles	1-6
TMFD 905D	Advanced Problems: Design	1-6

Elective (3 cr): Examples of regularly taught courses that may be applied:

TMFD 997	Internship	1-9
TMFD 978	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.)	1-3
TMFD 890	Workshop/Seminar (Craft, Culture, and Fashion)	1-3

Response to Intervention: Reading

To earn the Graduate Certificate in Response to Intervention: Reading

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_ReadingIntervention/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
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.

Required Courses

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	

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

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

Sensory Disabilities

To earn the Graduate Certificate in Sensory Disabilities:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_SensoryDisabilities/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

SPED 846	Visual Impairments: Characteristics	3
SPED 872	Deaf or Hard of Hearing: Characteristics	3
SPED 960	Family and School Collaboration in Special Education	3
SPED 852	Visual Impairments: Methods	3
or SPED 873	Deaf or Hard of Hearing: Content Methods	

Teaching English to Speakers of Other Languages

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

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_TeachingEnglish/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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: 4 courses at 3 credit hours each, maintaining a 3.25 GPA for these courses and earning a grade of B or better in each course. Up to 6 credit hours of relevant previous coursework may be applied

Required Courses

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	
Elective: Take at least 1 of these courses		
TEAC 813D	World Languages Assessment	1-3
TEAC 813E	Special Topics in TESOL	1-6
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	3-9
TEAC 897E	Student Teaching Internship: English as a Second Language	1-10
TEAC 838	Linguistics in Language and Learning Contexts	3
TEAC 921D	Seminar in Literacy Studies: Language, Culture, and Education	1-9

Transdisciplinary Childhood Obesity Prevention

To earn the Graduate Certificate in Transdisciplinary Childhood Obesity Prevention:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_ChildhoodObesity/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
3. Consult an advisor to develop a plan of study.
4. Complete 14 credit hours as described here, with a grade of B- or better in each course. Participants must also complete a PhD or MS. *With permission, substitutions of equivalent courses may be accepted.*

Required Courses

NUTR 810	Transdisciplinary Obesity Prevention	3
NUTR 910	Research Planning and Grant Writing for Childhood Obesity	3
NUTR 893	Oral Science Communication Strategies	1

NUTR 911	Practicum: Experiential Learning Experiences in Childhood Obesity Prevention	1
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Graduate-level statistics course

Elective: Choose one

EDPS 800	Foundations of Educational Research	3
NUTR 805	Research Methods	3
CYAF 865	Research Design and Methods	3

World Language Teaching: German

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

1. Learn More. (http://www.unl.edu/gradstudies/prospective/programs/Cert_TeachingGerman/)
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Choose any 5 of these:

TEAC 922	Seminar in the Learning and Teaching of Foreign Languages	3
TEAC 922C	The Interpretive Mode: Reading and Listening in the German Language Classroom (formerly 922B)	3
TEAC 922G	Interpersonal and Presentational Writing in the German Language Classroom (formerly 922F)	3
TEAC 922P	Assessment in the German Language Classroom (formerly 922O)	3
TEAC 922T	Planning in the German Language Classroom (formerly 922S)	3
TEAC 922X	Technology-Enhanced German Language Instruction (formerly 922W)	3
TEAC 922E	Teaching for Intercultural Communicative Competence in the German Language Classroom	3
TEAC 922L	Interpersonal and Presentational Speaking in the German Language Classroom	3

World Language Teaching: Spanish

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

1. Learn More. (http://www.unl.edu/gradstudies/prospective/programs/Cert_TeachingSpanish/)
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/) 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.

Choose any 5 of these:

TEAC 922A	Teaching for Intercultural Communicative Competence in the Spanish Language Classroom	3
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TEAC 922B	The Interpretive Mode: Reading and Listening in the Spanish Language Classroom	3
TEAC 922F	Interpersonal and Presentational Writing in the Spanish Language Classroom	3
TEAC 922K	Interpersonal and Presentational Speaking in the Spanish Language Classroom	3
TEAC 922O	Assessment in the Spanish Language Classroom	3
TEAC 922S	Planning in the Spanish Language Classroom	3
TEAC 922W	Technology-Enhanced Spanish Language Instruction	3
TEAC 922	Seminar in the Learning and Teaching of Foreign Languages	3

Youth Development

To earn the Graduate Certificate in Youth Development:

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_YouthDevelopment/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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 13 credit hours as described here: a one-hour foundations course plus 12 hours listed below. *Some courses listed here require admission to a Child, Youth and Family Studies graduate degree program or permission.*

May be applied to either focus

CYAF 878	YD: Youth Policy (Michigan State Univ)	3
CYAF 880	YD: Contemporary Youth Issues (Various topics; UNL, Kansas State Univ, Texas Tech Univ, or North Dakota State Univ)	3

Required for the Youth Development Specialist focus

CYAF 861	YD: Foundational Skills in Positive Youth Development (at home univ)	3
CYAF 864	YD: Community Youth Development (Michigan State Univ)	3
CYAF 868	YD: Adolescents and Their Families (UNL or Kansas State Univ)	3
CYAF 872	YD: Youth Development (UNL or North Dakota State Univ)	3
CYAF 875	YD: Youth in Cultural Contexts (Michigan State Univ)	3

Required for the Youth Program Management and Evaluation focus

CYAF 861	YD: Foundational Skills in Positive Youth Development (at home univ)	3
CYAF 873	FAM/YD: Program Design, Evaluation and Implementation (UNL)	3
CYAF 863	YD: Youth Professionals as Consumers of Research (UNL)	3

CYAF 869	FAM/YD: Administration and Program Management (UNL or Kansas State Univ)	3
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Engineering

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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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.

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 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 (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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.

Required Courses

EMGT 805	Teamwork for Organizational Commitment and Collaboration	3
EMGT 806	Decision and Risk Analysis	3
Elective Courses (6 cr needed)		
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 822	Production and Operations Management	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

Fine and Performing Arts

Music Entrepreneurship

To earn the Graduate Certificate in Music Entrepreneurship:

1. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)Admission (<https://www.unl.edu/gradstudies/admissions/steps/>).
2. Consult an advisor to develop a plan of study.
3. Complete 12 credit hours as described here. These courses are offered each fall and spring term, with the business courses (ENTR) also offered in summer. *Although these are not part of the regular Master of Music program, they may be used as electives in some master's or doctoral programs in Music.*

MUSC 898	Special Topics in Music	3
ENTR 821	Initiating and Managing Entrepreneurial Growth	3
ENTR 822	Managing Rapid Growth and Change in Organizations	3
MUSC 894	Music Internship	3

Journalism and Mass Communications Public Relations and Social Media

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

1. Learn More (http://www.unl.edu/gradstudies/prospective/programs/Cert_PublicRelations/).
2. Apply for (http://www.unl.edu/gradstudies/prospective/programs/Cert_AdvancedHorticulture/)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

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