Provost approved 2/25/2025
Effective Fall 2025 unless noted otherwise

Graduate Academic Policies and Procedures
Meeting Minutes

January 27, 2025

3:00 - 5:00 PM

Meeting Location: 224 IG Greer

Voting Members Present: Gary Boye, Kristl Davison, Matt Estep, Darci Gardner, Jennifer Howard, Scot Justice, Quinn Morris, Alan Needle, Dan Poling, Melody Schwantes, Andrew Windham

Administrative Members Present: Jason Miller, Mark Bradbury, Ed Hassler, Gary McCullough, Wesley Kapp, Victoria Carlberg, Jason Xiong, Eric Berry, Ross Gosky, Ashley Colquitt, Dontrell Parson, Terry McClannon

Voting and Administrative Members Absent: Maureen Cathey, Lily Nilo, Tammy Haley, Jamie Yarbrough

1. Call to order – Chairperson Scot Justice called the meeting to order at 3pm.

2. Introduction of guests – Alecia Jackson, College of Education, and Patrick O'Shea, College of Education

3. Approval of the Minutes of the November 18, 2024 Graduate AP&P Meeting
   Vote (1): Approved by majority vote
   MOTION 1 PASSED.

4. New Business—Curriculum Proposals

   A. <u>Beaver College of Health Sciences</u>

   <u>Public Health & Exercise Science</u>

   Subcommittee Motion: Approve
   <u>G_HS_HES_2024_1</u>: Add a dual MS in Exercise Science/MS in Applied Data Analytics option
   Vote (2): Approved by majority vote.
   MOTION 2 PASSED.

   Subcommittee Motion: Approve
   <u>G_HS_HES_2024_7</u>: Delete ES 5625
   <u>G_HS_HES_2024_8</u>: Delete ES 5670
   <u>G_HS_HES_2024_9</u>: Delete ES 5680

Vote (3): Approved by majority vote.
MOTION 3 PASSED.

Subcommittee Motion: Approve
G_HS_HES_2024_52: Add PH 5050
G_HS_HES_2024_53: Change PH5900
G_HS_HES_2024_54: Change PH5950
G_HS_HES_2024_55: changes to Master of Public Health
Vote (4): Approved by majority vote.
MOTION 4 PASSED.

Subcommittee Motion: Approve
GU_HS_NHM_2024_1: Add NUT 4460/5460
Vote (5): Approved by majority vote.
MOTION 5 PASSED.

Subcommittee Motion: Approve
G_HS_NHM_2024_2: Add NUT 5460, NUT 5160, and NUT 5225 as options for a Public Health Nutrition Concentration Course
G_HS_NHM_2024_8: Add NUT 5460, NUT 5160, and NUT 5225 as electives
Vote (6): Approved by majority vote.
MOTION 6 PASSED.

Subcommittee Motion: Approve
Change all ES course prefixes to KIN for new Kinesiology degree.
GU_HS_HES_2024_10
G_HS_HES_2024_39
G_HS_HES_2024_40
G_HS_HES_2024_41
G_HS_HES_2024_42
G_HS_HES_2024_43
G_HS_HES_2024_44
G_HS_HES_2024_45
G_HS_HES_2024_46
G_HS_HES_2024_47
G_HS_HES_2024_48
G_HS_HES_2024_49
G_HS_HES_2024_50

Discussion: It was noted that proposals 40, 41, 42 have the ES prefix and have not been updated to KIN prefix.
Motion for a friendly amendment to change ES prefixes to KIN in G_HS_HES_2024_40, 41, and 42.
Hand vote: Approved by majority vote, friendly amendment accepted.
G_HS_HES_2024_50 the website will need to be changed at some point to reflect updated website address.
Vote (7): approved by majority vote.
MOTION 7 PASSED.

B. College of Arts and Sciences

Geography
Subcommittee Motion: Approve
G_CAS_GHY_2024_19: add GHY 5850
Vote (8): approved by majority vote.
MOTION 8 PASSED.

Government & Justice Studies
Subcommittee Motion: Not passed, needs revision (split into 2 proposals as seen below)
G_CAS_GJS_2024_5: Remove a prerequisite for CJ 5000.
G_CAS_GJS_2024_6: Remove a prerequisite for PA 5000.
Vote (9)

Discussion: The Graduate School explained the background of splitting the original proposal into two separate proposals as two different courses were affected.

Motion from the floor to pass G_CAS_GJS_2024_5:
Vote (9a): approved by majority vote.
Motion from the floor to pass G_CAS_GJS_2024_6:
Vote (9b): approved by majority vote.
MOTION 9 PASSED.

Mathematics
Subcommittee Motion: Approve
G_CAS_MAT_2024_01: Add graduate certificate program
Vote (10): approved by majority vote, 1 abstention.
MOTION 10 PASSED.

C. Reich College of Education

Subcommittee Motion: Approve
G_COE_CLE_2024_1: Change FCS to CDE
GU_COE_CLE_2024_1: Create CDE prefix (Child Development and Education).
GU_COE_CLE_2024_2: Change all dual-listed FCS to CDE prefix.
Vote (11): approved by majority vote.
MOTION 11 PASSED.

Subcommittee Motion: Approve
G_COE_CLE_2024_2: remove RES 5000
Vote (12): approved by majority vote.
MOTION 11 PASSED.

Subcommittee Motion: Not Approved (Revision received 1/21)

G_COE_LES_2024_1: Add GCERT_721A

Motion from the floor to approve proposal G_COE_LES_2024_1.
Discussion: The Graduate School noted that the requested edits asked the College to provide context for the certificate admission requirements, and the requested context was addressed in resubmission.
Curriculum Subcommittee added further clarification, and the College of Education also supported this explanation.
Vote (13): approved by majority vote.
MOTION 13 PASSED.

Subcommittee Motion: Approve
G_COE_LTC_2024_1: Changes to Middle/Secondary Graduate Teaching Certificate
GU_COE_LTC_2024_1: Create CI 5480/CI 4480
Vote (14): approved by majority vote.
MOTION 14 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_1: Change course description for ITL 6200
G_COE_MCL_2024_8: Change the description for LIB 5030
G_COE_MCL_2024_9: Change the description for LIB 5060
Vote (15): approved by majority vote.
MOTION 15 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_2: Change course name and description for ITL 6300
G_COE_MCL_2024_3: Change course description for ITL 6400
Vote (16): approved by majority vote.
MOTION 16 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_4: Add a new course ITL 6500
G_COE_MCL_2024_5: Change Program of Study GCERT_716A_1
Vote (17): approved by majority vote.
MOTION 17 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_14: Change the program of study, LIB 465B_1
G_COE_MCL_2024_15: Change the program of study, LIB 465D_1
Vote (18): approved by majority vote.
MOTION 18 PASSED.

Subcommittee Motion: Not Approved until feedback is addressed (Revision received 1/21)
G_COE_MCL_2024_7: Add a dual master's degree between Media, Technology, and Learning Design (MTL) and Library Sciences (MLS)

Discussion: The Graduate School noted that they edited the proposal from changing a

program of study to adding a dual master's degree with the library science concentration, as it seemed more appropriate to create a new concentration than to change an existing one. The proposal is believed to be satisfactory.

Motion from the floor to approve G_COE_MCL_2024_7.
Vote (19): approved by majority vote.
MOTION 19 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_10: Add LIB 5320
G_COE_MCL_2024_11: Add LIB 5325
G_COE_MCL_2024_12: Add LIB 5520 Capstone (3)
Vote (20): approved by majority vote.
MOTION 20 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_13: Add G_CERT_725A
Vote (21): approved by majority vote.
MOTION 21 PASSED.

Subcommittee Motion: Approve
G_COE_MCL_2024_16: Change course description of LIB 5010
Vote (22): approved by majority vote.
MOTION 22 PASSED.

Subcommittee Motion: Approve
GU_COE_LTC_2024_2: Change CI 3910 to CI 4550; Dual list with CI 5550; on-demand
GU_COE_LTC_2024_3: Change CI 3920 to CI 4750; Dual-list with CI 5750; on-demand
Vote (23): approved by majority vote.
MOTION 23 PASSED.

D. College of Fine and Applied Arts

STBE
Subcommittee Motion: Approve
G_FAA_STBE_2024_1: CHANGE the program of study requirements for MS-599I and MS_113B
Vote (24): approved by majority vote.
MOTION 24 PASSED.

Subcommittee Motion: Approve
GU_FAA_STBE_2024_14: change the course description and offering of TEC 4515
GU_FAA_STBE_2024_15: change the course descriptions of TEC 4520/TEC 5520
GU_FAA_STBE_2024_16: change the course descriptions of TEC 4523/TEC 5523
GU_FAA_STBE_2024_17: changes to TEC 4607/TEC 5607

GU_FAA_STBE_2024_18: changes to TEC 4613/TEC 5613
GU_FAA_STBE_2024_19: changes to TEC 4615/TEC 5615
GU_FAA_STBE_2024_21: changes to TEC 4628/TEC 5628
GU_FAA_STBE_2024_22: changes to TEC 4633/TEC 5633
GU_FAA_STBE_2024_24: changes to TEC 4700/TEC 5700
GU_FAA_STBE_2024_27: add TEC 4620/TEC 5620
GU_FAA_STBE_2024_30: add TEC 4640/TEC 5640
GU_FAA_STBE_2024_31: Change BSC 4659/ BSC 5659 credits and course numbers
GU_FAA_STBE_2024_32: Change BSC 4459/ BSC 5459 credits and course numbers
Vote (25): approved by majority vote.
MOTION 25 PASSED.

E. Walker College of Business

MBA

Subcommittee Motion: Approve
G_COB_MBA_2024_5: Add AI components and update name of MBA 5200
G_COB_MBA_2024_6: Add AI components and update name of ACC 5270
GU_COB_CIS_2024_1: update name and course components of CIS 4760/5760
Vote (26): approved by majority vote.
MOTION 26 PASSED.

5. New Business—Policy Proposals

Subcommittee Motion: Approve
G_GRAD_2024_02: Candidacy and Thesis Registration

Discussion: It was asked if the point of the proposal is to be able to take thesis credits without an approved prospectus.
The Graduate school responded that the committee form should be updated, and that the issue the proposal addresses is thesis hours v. what is a candidate? The doctoral student process isn't being changed. Committee chairs don't have to approve students for thesis hours if they don't feel they are ready, even if the student is admitted to candidacy.

Vote (27): approved by majority vote, 1 opposed.
MOTION 27 PASSED.

6. FIO: Change in Modality Form

Discussion: The Graduate School clarified that this is an Autism graduate certificate program. The College of Education added that the program has been offered for a while, but the on-campus enrollment wasn't great, and they are hoping to capture more students/broader audience online.

7. Grad School updates – 3MT event on Friday. Provost attended. January seemed like a good time to host the event.
    - Graduation application first deadline Feb. 28; final March
    - Accelerated admissions – communicate changes to Victoria
    - GSL – Thesis/Dissertation Milestone Workshop Wednesday; Writing Group
    - Allocations to deans
    - Pilot for funding towards tuition for TA/RA. Data collection.
    - Strategic planning focus groups- planning for next 5 years. Staff and faculty
    - Admission requirements – course name, not prefix
    - Dual degree changes – language on how they apply
    - Curriculog testing, thanks to Eric Berry and Julie Hayes. Should be a nice change for curriculum change and review.
    - Curriculog testing process: sending edits to vendor, should be finalized in February. Train Deans in March, April open up to workshops with faculty. Discussion about Curriculog.
    - GSGA research and travel award deadlines January 31, March 31

8. Old Business: No items.

9. Discussion Items: No items.

10. Adjournment – Meeting adjourned at 3:58pm.

G_HS_HES_2024_1

Add a dual MS in Exercise Science/MS in Applied Data Analytics option for students interested in obtaining both degrees simultaneously. This dual degree is for the MS in Exercise Science - Research Concentration - Program Code: MS_842B; and the MS in Applied Data Analytics - Interdisciplinary Analytics Concentration - Program Code: MS_304D.
Proposed Bulletin Copy

Dual Master of Science in Kinesiology-Research Concentration and Master of Science in Applied Data Analytics-Interdisciplinary Analytics Concentration

Program Code: MS Kinesiology MS 842B; ADA MS_304D and MBA_305G

CIP Code: MS Kinesiology 26.0908; ADA 11.0802 and 52.0201

Program of Study

Admission Requirements

Letters of Recommendation (3): Must be professional or academic

Applied Data Analytics Personal Statement (1-2 pages): Explain why you are interested in the MSADA program; your short term/long term goals and any extenuating circumstances (if any) that the admissions committee should know

Kinesiology Personal Statement: Explain how a graduate degree in Kinesiology from App State will fit into your career aspirations? Please indicate 1-2 faculty members you would be interested in working with as a graduate student and explain why.

Minimum GPA Requirements: 3.0 or 2.5-2.99 cumulative GPA and GRE/GMAT in the 50th percentile.

Test Scores (GRE)

Applied Data Analytics Test Score Waiver Requirements:

Cumulative GPA of 3.5 or higher in your bachelor's degree; OR

Completion of a graduate certificate in Business Analytics at App State with a minimum GPA of 3.5 or higher; OR

Cumulative GPA of 3.0 or higher in your bachelor's AND verified membership in the Beta Gamma Sigma Honor Society; OR

Cumulative GPA of 3.0 or higher in your bachelor's AND 5+ years of relevant, post-bachelor's work or military experience

Earned master’s degree

Kinesiology Test Score Waiver Requirements:

No GRE requirement. You may be asked to provide a writing sample.
Location: Boone Campus

Course Requirements

Total Required (Minimum 54 Hours)

MS in Kinesiology Required Coursework (18 Hours)

- KIN 5000 - Introduction to Research Principles and Design (3)
- KIN 5593 - Biomechanical Laboratory Assessment (3) OR E_S 5590 - Physiological Assessment in Clinical Populations (3)
- KIN 5592 - Data Analysis in Sport and Exercise Science (3)
- KIN 5624 - Physiology of Exercise (3)
- KIN 5652 - Practical Aspects of Strength & Conditioning (3)
- KIN 5710 - Biomechanics (3)

MS in Applied Data Analytics Required Courses (18 Hours)

- CIS 5450 - Project Management and Visualization (3)
- CIS 5685 - Programming for Business Analytics (3)
- MBA 5660 - Web Analytics, Data Privacy and Security (3)
- CIS 5860 - Applied Analytics Project (3)
- MBA 5820 - Executive Skills (0)

Take any two of the following three courses (6 Hours):

- ECO 5720 - Applied Econometrics (3) [DL]
- ECO 5740 - Forecasting and Time Series Models (3) [DL]
- PSY 5050 - Advanced Quantitative Methods (3)

Shared Required Courses (15 hours)

- KIN 5999 - Thesis (6)
- MBA 5200 - Problem Analysis and Quantitative Methods (3)
- CIS 5630 - Data Management (3)
- CIS 5845 - Unstructured Data Analytics (3)

Shared Elective Courses (3 hours)

Other electives may be considered as substitutions in consultation with the MS in Exercise Science and MS in Applied Data Analytics directors.

- A_T 5830 - Risk Reduction Strategies in Sport & Activity (3)
- KIN 5600 - Analysis of Sport Performance (3)
- KIN 5651 - Theoretical Aspects of Strength & Conditioning (3)
- KIN 5593 - Biomechanical Laboratory Assessment (3) OR E_S 5590 - Physiological Assessment in Clinical Populations (3) [whichever not taken to meet required course]
- HCM 5210 - Foundations of U.S. Health System (3)
- HCM 5700 - Health Care Informatics (3)
- HCM 5720 - Data Analytics in Health Care (3)
- MBA 5020 - International Experience (3) (Focus of experience - Analytics)

MS in Applied Data Analytics Differential Tuition

Students enrolled in the dual degree will pay an additional tuition amount above the regular tuition assessed for graduate students on those courses that satisfy the requirements of the MS in Applied Data Analytics degree. For more information about differential tuition, please refer to **http://studentaccounts.appstate.edu/tuition-and-fees**

Other Requirements for the Dual MS in Kinesiology and MS in Applied Data Analytics

Thesis: Required.
Proficiency: Not Required.
Candidacy: Required.
Comprehensive: Required for MS in Kinesiology. Not required for the MS in Applied Data Analytics.
Product of Learning: Not required

G_HS_HES_2024_7

Delete ES 5625 - Exercise Testing for Clinical Populations

Current Bulletin Copy (to be deleted)
E_S 5625 - Exercise Testing for Clinical Populations (3)
When Offered: Fall
This course provides experience in common clinical exercise testing procedures and interpretation for various chronic disease populations. Students will be required to conduct a variety of clinical exercise tests used in the assessment of common cardiopulmonary and metabolic chronic diseases used in clinical settings and hospitals. Students will be required to demonstrate proficiency through practical evaluations, written examinations, and group presentations. Emphasis will be placed on the student's ability to independently manage exercise testing in preparation for leadership roles in a variety of clinical settings.

G_HS_HES_2024_8
Delete ES 5670- Clinical Exercise Practicum I

Current Bulletin Copy (to be deleted)
E-S 5670 - Clinical Exercise Practicum I (1-2_
When Offered: Fall, Spring
A comprehensive overview of the physical, physiological, and metabolic responses of the human body to exercise testing and training in healthy individuals and in those with metabolic, cardiovascular, and/or pulmonary disease. The focus will be on exercise as both treatment and prevention of disease, as well as managing healthy and clinical populations in a safe and professional setting. Current literature will be included to keep students up to date with novel treatments. An overview of environmental and legal considerations in the prescriptive process will also be discussed.
Prerequisite: E_S 5625.

G_HS_HES_2024_9
Delete ES 5680- Clinical Exercise Practicum II

Current Bulletin Copy (to be deleted)
E_S 5680 - Clinical Exercise Practicum II (1-2)
When Offered: Fall, Spring
This course will provide practical experience within several community-based clinical exercise settings. Students will be required to complete 50 contact hours within an approved clinical setting for each hour of credit. Potential clinical settings include cardiac and pulmonary rehabilitation, cardiac testing, pulmonary testing, cancer rehabilitation and pediatric exercise programming.
Prerequisite: E_S 5625 and E_S 5670

G_HS_HES_2024_52
Add PH 5050 Qualitative Methods in Public Health

Proposed Bulletin Copy
P_H 5050 Qualitative Methods in Public Health (3)
When Offered: Spring

This course provides a practical overview of how to conduct qualitative research. The primary goal of this course is to prepare students to be able to plan, conduct, and disseminate qualitative research findings in relation to public health interventions, programs, and policies.

G_HS_HES_2024_53

Change PH5900 (Field Practicum Experience) course and course description to 3 credit hours from the current range of 3 - 6.

Current Bulletin Copy
P_H 5900 Field Practicum Experience (3-6)
When Offered: Fall, Spring

Students are placed in a variety of health related agencies such as health departments, community action agencies, community mental health centers, educational institutions, wellness programs, hospitals, industrial/ business settings, etc., under the direction of the graduate MPH practicum coordinator. Can be taken across multiple semesters, but must be taken for a total of six hours.
Prerequisite: Completion of all academic coursework or permission of practicum coordinator.
Graded on an S/U basis.

Proposed Bulletin Copy
P_H 5900 Field Practicum Experience (3)
When Offered: Fall, Spring

Students are placed in a variety of health related agencies such as health departments, community action agencies, community mental health centers, educational institutions, wellness programs, hospitals, industrial/ business settings, etc., under the direction of the graduate MPH practicum coordinator.
Prerequisite: Completion of all academic coursework or permission of practicum coordinator.
Graded on an S/U basis.

G_HS_HES_2024_54
Change name of PH5950, credit hours, description, and grading scheme.

Current Bulletin Copy
P_H 5950 Practice-Based Research/Scholarly Practicum (3-6)
When Offered: Fall, Spring

Students conduct an independent practice-based research or scholarly project under the direction of a public health faculty member. The student writes a final paper reporting results and presents the results at a poster day session (3 hours). Students also have the option to prepare a manuscript for publication in a peer-reviewed journal under the direction of a public health faculty member, changing the number of credits from 3 to 6.
Prerequisite: Completion of all academic coursework or permission of practicum coordinator.
Graded on an S/U basis.

Proposed Bulletin Copy
P_H 5950 Capstone Project (3)
When Offered: Fall, Spring

Students complete a written manuscript in regards to their fieldwork project under the direction of a public health faculty member.
Prerequisite: Completion of all academic coursework or permission of practicum coordinator.

G_HS_HES_2024_55

Requesting approval for the following changes to the program of study for the Master of Public Health degree:
- Change to the wording for the admission requirements and required prerequisite courses for admission
- Change to the Required course credit hours from 42-45 to 42.
- Addition of P_H 5050 (Qualitative Methods in Public Health) to the Required courses
- Move P_H 5800 (Emergency Preparedness, Response, and Mitigation in Rural Communities) from Elective Courses to Required Courses.
- Change to the Elective course credit hours
- Change PH 5900 and PH5950 to 3 credit hours; Change name of PH5950 & Comprehensive Exam language.

Current and proposed Bulletin copy

Master of Public Health

Program Code 833A

CIP Code 51.2201

Program of Study for the Master of Public Health

Admission Requirements: Baccalaureate degree from an accredited college or university, complete application to the Graduate School, official general GRE exam scores unless waived.

To be considered for admission, applicants must meet or exceed the criteria for admission to the Graduate School. Meeting this condition does not guarantee admission.

Standardized Exam Waiver Eligibility: The standardized exam (GRE) may be waived for applicants with a cumulative undergraduate GPA of 3.0 or higher.

Additional Information:

Additional Admission Requirements:

- Minimum of a "B" on required prerequisites
- Personal Statement/Essay
- Volunteer/work experience in a public health-related organization/agency or other service experience

Prerequisites:

The program faculty reserves the right to request course syllabi to confirm course content.

- English/Writing
- Statistics/Math/Quantitative Data Analysis

Location: Online with some in-person field work/practicum

Additional Standardized Exam Waiver Eligibility Information

Standardized exam (GRE, GMAT, MAT) waiver eligibility for graduate degree programs at Appalachian State varies by program, but requires that applicants hold a minimum cumulative undergraduate GPA of 3.0 or higher in their last earned bachelor's degree or 3.3 or higher in an earned graduate degree. No exam waiver is automatic but will require review and approval by the program and by the Graduate School upon submission of a complete application. An approved waiver request does not guarantee acceptance into the program. A denied waiver request does not mean that a candidate is denied admission to the program, only that a standardized exam score is needed to more fully evaluate the application. More complete information about standardized exam waivers can be found in the **Admissions Requirements section of this Bulletin**.

Course Requirements for the Master of Public Health:

Total Required (42 Hours)

Required courses (36 Hours):

P_H 5000 Foundations of Public Health (3)
P_H 5050 Qualitative Methods in Public Health (3)
P_H 5100 Statistical Methods in Public Health I (3)
P_H 5200 Epidemiological Methods (3)
P_H 5300 Health Behavior Theory and Measurement (3)
P_H 5350 Program Evaluation in Rural Settings (3)
P_H 5400 Environmental Public Health and Sustainability (3)
P_H 5450 Public Health Policy for Rural Resilience and Sustainability (3)
P_H 5550 Public Health Leadership, Management, and Practice (3)
P_H 5800 Emergency Preparedness, Response, and Mitigation in Rural Communities (3)
P_H 5900 Field Practicum Experience (3)
P_H 5950 Capstone Project (3)

Elective Courses (6 Hours)

To be approved by academic advisor, 3 hours must come from one of the courses listed below; 3 hours may be taken outside of the PH program:

P_H 5150 Statistical Methods in Public Health II (3)
P_H 5600 Global Public Health in Rural Populations (3)
P_H 5700 Grant Writing in Public Health (3)

Academic Standards for Retention in the Master of Public Health

All graduate students must meet eligibility requirements established by the graduate school; in addition, master of public health students must:

- Maintain a "B" average throughout the program
- Earn no more than two final course grades of "C" or lower in required coursework

Other Requirements for the Master of Public Health

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Moved (insertion) [1]

Deleted: -6

Deleted: . Must be taken for a total of 6 hours.

Deleted: Practice-Based Research/Scholarly Practicum

Deleted: -6

Deleted: . May be taken for a total of 3 →¶ or 6 hours.

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Deleted: 6

Moved up [1]: P_H 5800→Emergency Preparedness, Response, and Mitigation in Rural Communities (3)¶

Thesis: Not required.

Proficiency: Not required

Candidacy: Not applicable

Comprehensive Exam: Successful completion of P_H 5950 (Capstone Project) with a B or better.

Product of Learning: Not required

Deleted: A final summary paper from practicum experience in P_H 5900 (Field Practicum Experience) and higha quality final written product

Deleted: paper and poster presentation on final research/scholarly project

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Deleted: Practice-Based Research/Scholarly Practicum

GU_HS_NHM_2024_1

Add a new dually listed course, NUT 4460/5460 Topics in School Nutrition Leadership and Management.

Proposed Bulletin Copy
NUT 4460/5460- Topics in School Nutrition Leadership and Management (3)
When Offered: Summer
A study of state and federal policies and procedures required to implement school nutrition programs, including the National School
Breakfast program and the National School Lunch Program. The course emphasizes practical application of policies and procedures to
topics and issues in school nutrition management with a focus on the development of effective management skills and advocacy for
improved school nutrition.
Prerequisite: Approval of the program director.

G_HS_NHM_2024_2

Add NUT 5460 Topics in School Nutrition Leadership and Management, NUT 5160 Health and Public Policy, and NUT 5225 Foodsystems, Sustainability, and Society as options for a Public Health Nutrition Concentration Course to the program of study for the Master of Science in Public Health Nutrition Traditional Option

G_HS_NHM_2024_2
Current and proposed Bulletin copy

Nutrition - Public Health Nutrition Concentration, MS

Formatted Table

Return to: Programs Alphabetically

Program Code: MS_841C
CIP Code: 51.3101

Program of Study for the Master of Science in Nutrition

Admission Requirements: Baccalaureate degree from an accredited college or university; complete application to the Graduate School; official general GRE exam scores, unless waived; and a written statement addressing prior experience and career goals.

Priority will be given to applicants with related volunteer, life, or employment experiences.

To be considered for admission, applicants must meet the criteria for admission to the Graduate School. Meeting this condition does not guarantee admission.

Standardized Exam Waiver Eligibility: The standardized exam (GRE) requirement may be waived for applicants who submit a satisfactory written statement addressing prior experience and career goals.

Additional Admission Information

Additional Admission Requirements: Additional courses (up to 6 hours or as determined by program director including Introductory Nutrition and Medical Terminology) may be required if so indicated by the student's deficiencies.

Admissions are rolling, and applicants may enter the program at the start of any academic term.

The Dietetic Internship option is only available to students who have completed an ACEND-accredited Didactic Program in Dietetics and hold a Verification Statement of program completion.

Prerequisites: A student entering the program with curricular deficiencies may be required to complete more than the minimum number of hours for completion of the program. See the program director for more information.

Location: Online.

Additional Standardized Exam Waiver Eligibility Information

Standardized exam (GRE, GMAT, MAT) waiver eligibility for graduate degree programs at Appalachian State varies by program, but requires that applicants hold a minimum cumulative undergraduate GPA of 3.0 or higher in their last earned

bachelor's degree or 3.3 or higher in an earned graduate degree. No exam waiver is automatic but will require review and approval by the program and by the Graduate School upon submission of a complete application. An approved waiver request does not guarantee acceptance into the program. A denied waiver request does not mean that a candidate is denied admission to the program, only that a standardized exam score is needed to more fully evaluate the application. More complete information about standardized exam waivers can be found in the **Admissions Requirements section of this Bulletin**.

Accelerated Master's Program

This program offers an **Accelerated Master's** option for undergraduate students currently enrolled at Appalachian State University.

Course Requirements for the Master of Science in Nutrition

Total Required (Minimum 39 Hours)

Required Courses (6 Hours)

- **NUT 5000 - Research Methods in Nutrition and Foods (3)**
- **NUT 5300 - Effective Rural Practice for Health Professionals (3) [DL]**

Concentration (33 Hours)

Core Concentration Courses (15 Hours)

- **HCM 5240 - Health and Disease (3)**
- **NUT 5100 - Introduction to Community and Public Health (3)**
- **NUT 5150 - Public Health Nutrition Education (3)**
- **NUT 5200 - Lifecycle Nutrition for Public Health Nutrition Professionals (3)**
- **NUT 5350 - Public Health Nutrition Leadership and Practice (3)**

Options for Concentration Completion (18 Hours)

Students may select from the following two options for the remaining 18 hours in the concentration.

Traditional Option

-

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- **HCM 5210 - Foundations of the U.S. Health Care System (3)** OR NUT 5160 – Health and Public Policy (3) OR NUT 5460 – Topics in School Nutrition Leadership and Management (3)
- **HCM 5220 - Statistics for Health Administration (3)**
- **NUT 5275 - Diet, Obesity, and Disease (3)**
- **NUT 5375 - Community and International Health Assessment (3)**
- **NUT 5450 - Capstone Proposal (1)**
- **NUT 5475 - Public Health Nutrition Capstone (2)**
- **NUT 5510 - Environmental Health (3)** OR NUT 5225 – Food Systems, Sustainability, and Society (3)

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G_HS_NHM_2024_8

Add NUT 5460 Topics in School Nutrition Leadership and Management, NUT 5160 Health and Public Policy, and NUT 5225 Food Systems, Sustainability, and Society as electives to the program of study for Graduate Certificate in Public Health Nutrition Practice

Current and proposed Bulletin copy

Public Health Nutrition Practice Graduate Certificate

Return to: **Programs Offered by Program Type (Dual Degree, Degree, Certificate, etc.)**

Program Code: GCERT_829A

CIP Code: 51.3101

Program of Study for the Graduate Certificate in Public Health Nutrition Practice

Admission Requirements: Baccalaureate degree from an accredited college or university; **complete the application to the Graduate School**.

Admissions are rolling, and applicants may enter the program at the start of any academic term.

Prerequisite: Additional courses (up to 6 hours or as determined by program director including Introductory Nutrition and Medical Terminology) may be required if so indicated by the student's deficiencies.

Location: Online

Course Requirements for the Graduate Certificate in Public Health Nutrition Practice

Total Required (Minimum 15 Hours)

Required Courses (9 Hours)

HCM 5240 - Health and Disease (3)
NUT 5100 - Introduction to Community and Public Health (3)
NUT 5200 - Lifecycle Nutrition for Public Health Nutrition Professionals (3)

Elective (6 Hours)

Choose two graduate elective courses in consultation with program director

HCM 5220 - Statistics for Health Administration (3)
NUT 5150 - Public Health Nutrition Education (3)

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NUT 5160 Health and Public Policy

NUT 5225 Food Systems, Sustainability, and Society

NUT 5300 - Health Promotion and Practice in Rural and Urban Settings (3) [DL]

NUT 5350 - Public Health Nutrition Leadership and Practice (3)

NUT 5375 - Community and International Health Assessment (3)

NUT 5460 Topics in School Nutrition Leadership and Management

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⇦ Return to: **Programs Offered by Program Type (Dual Degree, Degree, Certificate, etc.)**

GU_HS_HES_2024_10
Create a new course prefix: KIN for the new degree in Kinesiology

G_HS_HES_2024_39
Change all ES course prefixes to new prefix (KIN) for new Kinesiology degree

Current and proposed Bulletin copy

Exercise Science

- KIN 5000 - Introduction to Research Principles and Design (3)
- KIN 5001 - Introduction to Research Methods (3)
- KIN 5060 - Practicum: Strength and Conditioning (3)
- KIN 5500 - Independent Study (1-4)
- KIN 5530-5549 - Selected Topics (1-4)
- KIN 5555 - Advanced Nutritional Aspects of Exercise and Sports (3) [CL]
- KIN 5560 - Research Project (3)
- KIN 5590 - Physiological Assessment in Clinical Populations (3)
- KIN 5592 - Data Analysis in Sport and Exercise Science (3)
- KIN 5593 - Biomechanical Laboratory Assessment (3)
- KIN 5600 - Analysis of Sports Performance (3)
- KIN 5620 - Advanced Cardiorespiratory Physiology (3)
- KIN 5624 - Physiology of Exercise (3)
- KIN 5625 - Exercise Testing for Clinical Populations (3)
- KIN 5626 - Skeletal Muscle Physiology (3)
- KIN 5635 - Electrocardiographic Interpretation (3)
- KIN 5645 - Current Trends in Cardiopulmonary Pathophysiology (3)
- KIN 5651 - Theoretical Principles of Strength and Conditioning (3)
- KIN 5652 - Practical Concepts of Strength and Conditioning (3)
- KIN 5660 - Exercise Prescription and Chronic Disease Management (3)
- KIN 5670 - Clinical Exercise Practicum I (1-2)
- KIN 5680 - Clinical Exercise Practicum II (1-2)
- KIN 5710 - Biomechanics (3)
- KIN 5720 - Motor Behavior for Sport and Performance (3)
- KIN 5730 - Introduction to Sport Psychology in Professional Practice (3)
- KIN 5731 - Behavior Change, Health, and Exercise for Clinical Populations (3)
- KIN 5800 - Teaching in Exercise Science (3)
- KIN 5900 - Internship (1-12)
- KIN 5989 - Graduate Research (1-9)
- KIN 5999 - Thesis (2-6)

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G_HS_HES_2024_40

Change the MS in Exercise Science-Clinical Exercise Physiology concentration (842E) to MS in Kinesiology-Clinical Exercise Physiology concentration

Current and proposed Bulletin copy

Kinesiology - Clinical Exercise Physiology Concentration, MS

Deleted: Exercise Science

Return to: **Beaver College of Health Sciences**

Program Code: MS_842E
CIP Code: 26.0908

Program of Study for the Master of Science in Kinesiology

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Admission Requirements: Baccalaureate degree from an accredited college or university; **complete application to the Graduate School**; statement of career goals; and completion of the following courses or equivalents prior to formal admission into the program: Human Anatomy and Physiology (E S 2035, 3 hours); Exercise Physiology (E S 3002, 3 hours); Introduction to Biomechanics (E S 3550, 4 hours). This list may not include prerequisites for all elective courses. The applicant must also have two additional science courses. Prerequisites will be assessed by the graduate program director.

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To be considered for admission, applicants must meet or exceed the **criteria for admission to the Graduate School**. Meeting these criteria does not guarantee admission. Both qualitative and quantitative aspects of applications are reviewed by the program in comparison to the current applicant pool.

Location: Boone Campus

Accelerated Master's Program

This program offers an **Accelerated Master's** option for undergraduate students with a **3.2 or higher** currently enrolled at Appalachian State University.

Course Requirements for the Master of Science in Kinesiology

Deleted: Exercise Science

Total Required (Minimum 36 Hours)

Required Courses (6 Hours)

- KIN **5624 - Physiology of Exercise (3)**
- KIN **5710 - Biomechanics (3)**

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Concentration Requirements (30 Hours)

- KIN 5001 - Introduction to Research Methods (3)
- KIN 5590 - Physiological Assessment in Clinical Populations (3)
- KIN 5620 - Advanced Cardiorespiratory Physiology (3)
- KIN 5635 - Electrocardiographic Interpretation (3)
- KIN 5645 - Current Trends in Cardiopulmonary Pathophysiology (3)
- KIN 5652 - Practical Concepts of Strength and Conditioning (3)
- KIN 5660 - Exercise Prescription and Chronic Disease Management (3)
- KIN 5731 - Behavior Change, Health, and Exercise for Clinical Populations (3)
- KIN 5900 - Internship (1-12) (6 Hours)

Other Requirements for the MS in Kinesiology

- **Thesis:** Required for the Research concentration; optional for the other concentrations
- **Proficiency:** Not required
- **Candidacy:** Required for thesis option; awarded upon approval of thesis committee and prospectus
- **Comprehensive:** Required
- **Product of Learning:** Not required

Notes

- During KIN 5900 - Internship (1-12), 40 contact hours equals 1 hours credit.
- If the KIN 5999 - Thesis (2-6) option is chosen, students should be in preparation for prospectus approval by the 2nd Fall semester.
- The total requirement for the degree is 36 hours minimum, but may be more depending upon elective hours.

G_HS_HES_2024_41

Change the MS in Exercise Science-Research concentration (842B) to MS in Kinesiology-Research concentration

Current and proposed Bulletin Copy

Kinesiology - Research Concentration, MS

Deleted: Exercise Science

Return to: **Beaver College of Health Sciences**

Program Code: MS_842B
CIP Code: 26.0908

Program of Study for the Master of Science in Kinesiology

Deleted: Exercise Science

Admission Requirements: Baccalaureate degree from an accredited college or university; **complete application to the Graduate School**; statement of career goals; and completion of the following courses or equivalents prior to formal admission into the program: Human Anatomy and Physiology (E S 2035, 3 hours); Exercise Physiology (E S 3002, 3 hours); Introduction to Biomechanics (E S 3550, 4 hours). This list may not include prerequisites for all elective courses. The applicant must also have two additional science courses. Prerequisites will be assessed by the graduate program director.

ES to KIN

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To be considered for admission, applicants must meet or exceed the **criteria for admission to the Graduate School**. Meeting these criteria does not guarantee admission. Both qualitative and quantitative aspects of applications are reviewed by the program in comparison to the current applicant pool.

Location: Boone Campus

Accelerated Master's Program

This program offers an **Accelerated Master's** option for undergraduate students with a **3.2 or higher** currently enrolled at Appalachian State University.

Course Requirements for the Master of Science in Kinesiology

Deleted: Exercise Science

Total Required (Minimum 36 Hours)

Required Courses (6 Hours)

- KIN **5624 - Physiology of Exercise (3)**
- KIN **5710 - Biomechanics (3)**

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Concentration Requirements (30 Hours)

- KIN 5000 - Introduction to Research Principles and Design (3)
- KIN 5592 - Data Analysis in Kinesiology (3)
-

One of the following two courses:

- KIN 5590 - Physiological Assessment in Clinical Populations (3)
- KIN 5593 - Biomechanical Laboratory Assessment (3)
-
- KIN 5999 - Thesis (2-6) (6 Hours)
- 15 hours of graduate electives chosen with the advisor's approval.

Other Requirements for the MS in Kinesiology

- **Thesis:** Required for the Research concentration; optional for the other concentrations
- **Proficiency:** Not required
- **Candidacy:** Required for thesis option; awarded upon approval of thesis committee and prospectus
- **Comprehensive:** Required
- **Product of Learning:** Not required

Notes

- During KIN 5900 - Internship (1-12), 50 contact hours equals 1 hours credit.
- If the KIN 5999 - Thesis (2-6) option is chosen, students should be in preparation for prospectus approva by the 2nd Fall semester.
- The total requirement for the degree is 36 hours minimum, but may be more depending upon elective hours.

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G_HS_HES_2024_42

Change the MS in Exercise Science-Strength and Conditioning concentration (842D) to MS in Kinesiology-Strength and Conditioning concentration

Current and proposed Bulletin Copy

Kinesiology - Strength and Conditioning Concentration, MS

Deleted: Exercise Science

Return to: **Beaver College of Health Sciences**

Program Code: MS_842D
CIP Code: 26.0908

Program of Study for the Master of Science in Kinesiology

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Admission Requirements: Baccalaureate degree from an accredited college or university; **complete application to the Graduate School**; statement of career goals; and completion of the following courses or equivalents prior to formal admission into the program: Human Anatomy and Physiology (E S 2035, 3 hours); Exercise Physiology (E S 3002, 3 hours); Introduction to Biomechanics (E S 3550, 4 hours), and Concepts in Athletic Training (A T 2005, 3 hours). This list may not include prerequisites for all elective courses. The applicant must also have two additional science courses. Prerequisites will be assessed by the graduate program director.

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To be considered for admission, applicants must meet or exceed the **criteria for admission to the Graduate School**. Meeting these criteria does not guarantee admission. Both qualitative and quantitative aspects of applications are reviewed by the program in comparison to the current applicant pool.

Location: Boone Campus

Accelerated Master's Program

This program offers an **Accelerated Master's** option for undergraduate students with a **3.2 or higher** currently enrolled at Appalachian State University.

Course Requirements for the Master of Science in Kinesiology

Deleted: Exercise Science

Total Required (Minimum 36 Hours)

Required Courses (6 Hours)

- KIN **5624 - Physiology of Exercise (3)**
- KIN **5710 - Biomechanics (3)**

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Concentration Requirements (30 Hours)

- KIN 5001 - Introduction to Research Methods (3)
- KIN 5555 - Advanced Nutritional Aspects of Exercise and Sports (3) [CL]
- KIN 5593 - Biomechanical Laboratory Assessment (3)
- KIN 5600 - Analysis of Sports Performance (3)
- KIN 5651 - Theoretical Principles of Strength and Conditioning (3)
- KIN 5652 - Practical Concepts of Strength and Conditioning (3)
- KIN 5730 - Introduction to Sport Psychology in Professional Practice (3)
- KIN 5900 - Internship (1-12) (6 Hours)
- 3 hours of graduate electives chosen with the advisor's approval

Other Requirements for the MS in Kinesiology Exercise Science

- **Thesis:** Required for the Research concentration; optional for the other concentrations
- **Proficiency:** Not required
- **Candidacy:** Required for thesis option; awarded upon approval of thesis committee and prospectus
- **Comprehensive:** Required
- **Product of Learning:** Not required

Notes

- During KIN 5900 - Internship (1-12), 50 contact hours equals 1 hours credit.
- If the KIN 5999 - Thesis (2-6) option is chosen, students should be in preparation for prospectus approva by the 2nd Fall semester.
- The total requirement for the degree is 36 hours minimum, but may be more depending upon elective hours.

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G_HS_HES_2024_43

Change course description for ES 5001 (prefix will be changed under a separate AP&P proposal) and semester offering.

Current Bulletin Copy

E_S 5001 - Introduction to Research Methods (3)
When Offered: On Demand
This course examines how to evaluate the quality of scientific evidence in the biomedical sciences in service of evidence-based clinical practice. The primary aim of the course is to help students understand the basis of the long-standing 'crisis of irreproducibility' in biomedical science and to perform evaluations of the quality of evidence in peer-reviewed scientific journal articles by applying a more expansive and nuanced knowledge of statistics and error, and the principles of sound experimental design especially for randomized control trials and systemic reviews/meta-analyses. The intent of this course is for students to cultivate the ability to quickly identify the strengths and weaknesses of scientific reports by flagging common threats to external and internal validity by noting the strength and execution of experimental design, statistical analysis, graphical representations, and extracting conclusions from the data. This course is designed for graduate exercise science students who are focusing on careers in applied clinical health care settings.

Proposed Bulletin Copy

KIN 5001 - Introduction to Research Methods (3)
When Offered: Spring
This course examines how to evaluate the quality of scientific evidence in the Kinesiology field. Students will perform evaluations of the quality of evidence in peer-reviewed scientific journal articles by applying a more expansive and nuanced knowledge of statistics, and the principles of sound experimental design especially for randomized control trials and systematic reviews/meta-analyses.

G_HS_HES_2024_44

Change selected topics (ES 5530-5549) course description (prefix will be changed under a separate AP&P proposal)

Current Bulletin Copy

E_S 5530-5549 - Selected Topics (1-4)
When Offered: On Demand
Courses may include topics such as: adult fitness and cardiac rehabilitation; perceptual motor development; motor development; physical education for the handicapped; motor assessment and interpretation.

Proposed Bulletin copy

KIN 5530-5549 - Selected Topics (1-4)
When Offered: On Demand
These courses provide opportunity to study a special topic or combination of topics not otherwise provided in the Kinesiology MS curriculum. May be repeated for credit when content does not duplicate.

G_HS_HES_2024_45
Change ES 5592 title and course description (prefix will be changed under a separate AP&P proposal)

Current Bulletin Copy
E_S 5592 - Data Analysis in Sport and Exercise Science (3)
When Offered: Fall
Methods of acquisition, analysis and interpretation of data most often encountered in sport and exercise science will be included. Emphasis will be placed on descriptive methods, statistical methods and computer applications.

Proposed Bulletin copy
KIN 5592 - Data Analysis in Kinesiology (3)
When Offered: Fall
Methods of acquisition, analysis and interpretation of data most often encountered in Kinesiology will be included. Emphasis will be placed on descriptive methods, statistical methods and computer applications.

G_HS_HES_2024_46
Change ES 5731 course description (prefix will be changed under a separate AP&P proposal) and semester offering.

Current Bulletin copy
E_S 5731 - Behavior Change, Health, and Exercise for Clinical Populations (3)
When Offered: On Demand
This course examines chronic injury, illness, and disability among adults, focusing on health behavior change involving physical activity and wellness promotion. The primary aim of the course is to help students understand the principles of effective behavior change and integrated patient interaction model necessary to become a competent health care professional. An emphasis will be placed on psychosocial needs assessment, effective techniques for patient interaction, and the incorporation of holistic treatment plans while working with patients living with the most common diseases seen in today's applied health care settings. This course addresses the ACSM CEP domains associated with education and behavior change and is designed for graduate exercise science students who are focusing on careers in applied clinical health care settings.

Proposed Bulletin copy
KIN 5731 - Behavior Change, Health, and Exercise for Clinical Populations (3)
When Offered: Fall
This course examines chronic injury, illness, and disability among adults, focusing on health behavior change involving physical activity and wellness promotion. The primary aim of the course is to help students understand the principles of effective behavior change and integrated patient interaction model necessary to become a competent health care professional. An emphasis will be placed on psychosocial needs assessment, effective techniques for patient interaction, and the incorporation of holistic treatment plans while working with patients living with the most common diseases seen in today's applied health care settings. This course addresses the ACSM CEP domains associated with education and behavior change and is designed for graduate Kinesiology students who are focusing on careers in applied clinical health care settings.

G_HS_HES_2024_47

Change ES 5800 title and course description (prefix will be changed under a separate AP&P proposal)

Current Bulletin copy
E_S 5800 - Teaching in Exercise Science (3)
When Offered: On Demand
This course focuses on developing effective instructional strategies for teaching exercise science at the college level. The course emphasizes instructional principles, practices, and protocols that enable instructors to design active learning environments and model the nature of exercise science through their college science instruction. The overarching goal of the course is to prepare graduate students for successful instructional experiences and provide transferable skills to prepare students for future careers in academia and related fields.
Graded on an S/U basis.

Proposed Bulletin copy
KIN 5800 - Teaching in Kinesiology (3)
When Offered: On Demand
This course focuses on developing effective instructional strategies for teaching Kinesiology at the college level. The course emphasizes instructional principles, practices, and protocols that enable instructors to design active learning environments. The goal of the course is to prepare graduate students for successful instructional experiences and provide transferable skills for future careers in academia and related fields.
Graded on an S/U basis.

G_HS_HES_2024_48
Change ES 5900 course description (prefix will be changed under a separate AP&P proposal)

Current Bulletin copy
E_S 5900 - Internship (1-12)
When Offered: Fall, Spring
A guided, practical experience at a qualified program site. Internship credit is determined by the ratio of 50 contact hours for one hour of credit for a maximum of 12 s.h.
Graded on an S/U basis.

Proposed Bulletin copy
KIN 5900 - Internship (1-12)
When Offered: Fall, Spring
A guided, practical experience at a qualified program site. Internship credit is determined by the ratio of a minimum of 40 contact hours for one hour of credit, for a maximum of 12 s.h.
Graded on an S/U basis.

G_HS_HES_2024_49

Delete ES 5060 Practicum: Strength and Conditioning

Current Bulletin copy (to be deleted)
E_S 5060 - Practicum: Strength and Conditioning (3)
When Offered: Fall, Spring
Practical application of scientific principles and concepts to physical conditioning programs. Students will participate in relevant practical activities involving or related to exercise science or sports medicine.

G_HS_HES_2024_50

Update Department/Program information in the Bulletin text for the new Department and MS degree in Kinesiology

Current and proposed Bulletin copy

Department of Kinesiology

Return to: **Beaver College of Health Sciences**

hes.appstate.edu

TBD, Chair

Kym Fasczewski, Exercise Science Graduate Program Director
fasczewskiks@appstate.edu

The Master of Science in Kinesiology program is offered to individuals who seek careers in various areas within the Kinesiology field. Students in the Master of Science in Kinesiology program select one of three concentration options. The Research option includes coursework and experiences to prepare students for future Ph.D. work or work in research settings. The Clinical Exercise Physiology option includes coursework and experiences to prepare students for transition into a Ph.D. or Professional program, or for careers in cardiac rehabilitation and clinical research. The Strength and Conditioning option includes coursework and experiences to prepare students for careers in strength and conditioning or sports performance.

Admission to the Master of Science in Kinesiology program is a competitive process. Students who wish to be admitted to this program must submit satisfactory completion of academic requirements, including course prerequisites. Program admission is primarily in the fall semester, with occasional slots in spring if openings are available.

Programs

Master of Science

- Kinesiology - **Clinical Exercise Physiology Concentration, MS**
- Kinesiology - **Research Concentration, MS**
- Kinesiology - **Strength and Conditioning Concentration, MS**

Courses

Exercise Science

- KIN **5000 - Introduction to Research Principles and Design (3)**
- **KIN 5001 - Introduction to Research Methods (3)**
- KIN **5500 - Independent Study (1-4)**
- KIN **5530-5549 - Selected Topics (1-4)**
- KIN **5555 - Advanced Nutritional Aspects of Exercise and Sports (3) [CL]**

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- KIN 5560 - Research Project (3)
- KIN 5590 - Physiological Assessment in Clinical Populations (3)
- KIN 5592 - Data Analysis in Sport and Exercise Science (3)
- KIN 5593 - Biomechanical Laboratory Assessment (3)
- KIN 5600 - Analysis of Sports Performance (3)
- KIN 5620 - Advanced Cardiorespiratory Physiology (3)
- KIN 5624 - Physiology of Exercise (3)
- KIN 5626 - Skeletal Muscle Physiology (3)
- KIN 5635 - Electrocardiographic Interpretation (3)
- KIN 5645 - Current Trends in Cardiopulmonary Pathophysiology (3)
- KIN 5651 - Theoretical Principles of Strength and Conditioning (3)
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- KIN 5730 - Introduction to Sport Psychology in Professional Practice (3)
- KIN 5731 - Behavior Change, Health, and Exercise for Clinical Populations (3)
- KIN 5800 - Teaching in Exercise Science (3)
- KIN 5900 - Internship (1-12)
- KIN 5989 - Graduate Research (1-9)
- KIN 5999 - Thesis (2-6)

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P_H 5000 - Foundations of Public Health (3)¶
P_H 5100 - Statistical Methods in Public Health I (3)¶
P_H 5150 - Statistical Methods in Public Health II (3)¶
P_H 5200 - Epidemiological Methods (3)¶
P_H 5300 - Health Behavior Theory and Measurement (3)¶
P_H 5350 - Program Evaluation in Rural Settings (3)¶
P_H 5400 - Environmental Public Health and Sustainability (3)¶
P_H 5450 - Public Health Policy for Rural Resilience and Sustainability (3)¶
P_H 5500 - Independent Study (1-4)¶
P_H 5530-5549 - Selected Topics (1-4)¶
P_H 5550 - Public Health Leadership, Management, and Practice (3)¶
P_H 5600 - Global Public Health in Rural Populations (3)¶
P_H 5700 - Grant Writing in Public Health (3)¶ ... [1]

G_CAS_GHY_2024_19

We want to add a graduate-level Geographic Information Science (GIS) course, "GHY 5850 - TRANSPORTATION GIS." The course would not be offered until Spring 2026.

Proposed Bulletin copy
GHY 5850 - TRANSPORTATION GIS (3 credits)
When Offered: Spring
This course provides fundamentals to the field of transportation research, with a broad overview of its concepts, methods, and areas of application. In this course, students will learn topics such as [1] Spatial Organization, [2] Network Analysis, [3] Allocation Methods, and [4] Urban Transportation and learn how to utilize transportation theories and GIS techniques to solve real world problems. The course is designed to give students an understanding of transportation geography, their capabilities, uses, and limitations. Relevant applications are demonstrated in the class. At the end of the class, students can tackle transport problems through a synthesis of various approaches, activities and a project.

G_CAS_GJS_2024_5
Remove a prerequisite associated with CJ 5000 Research Methods.

CURRENT BULLETIN

C_J 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities of the student. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.
Prerequisite: An undergraduate statistics course.

P_A 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities that will be needed by the student as a practicing public administrator. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.
Prerequisite: An undergraduate statistics course.

PROPOSED BULLETIN COPY

C_J 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities of the student. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.

P_A 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities that will be needed by the student as a practicing public administrator. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.

G_CAS_GJS_2024_6

Remove a prerequisite associated with PA 5000 Research Methods.

CURRENT BULLETIN

C_J 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities of the student. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.
Prerequisite: An undergraduate statistics course.

P_A 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities that will be needed by the student as a practicing public administrator. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.
Prerequisite: An undergraduate statistics course.

PROPOSED BULLETIN COPY

C_J 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities of the student. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.

P_A 5000 - Research Methods (3)
When Offered: Fall, Spring
The goal of this course is the development of the analytical abilities that will be needed by the student as a practicing public administrator. The foundations of inquiry, the various approaches to the study of social phenomena, and several analytical techniques are presented, discussed, and practiced.

G_CAS_MAT_2024_01
Add a graduate certificate program in Mathematics Content for Teaching College Mathematics (GCERT_773A).
Proposed Bulletin copy

Graduate Certificate in Mathematics Content for College Teaching (18 credit hours)
New Graduate Certificate Proposal
Additional Information Required by the Graduate AP&P Committee

DESCRIPTION OF THE PROGRAM

1. The Mathematics Content for College Teaching Graduate Certificate program will provide students with 18 graduate credit hours in mathematics and statistics to meet the regional accreditors' criteria for teaching mathematics at the college or university level. In particular, the coursework is selected to provide a deeper understanding of the theory underlying courses often taught in the first two years of college mathematics (precalculus, calculus, introductory statistics, and linear algebra).

2. The mission of this program would be to provide students with a depth of mathematical content knowledge that will allow them to be effective post-secondary mathematics educators in future positions. The vision is for this graduate certificate program to help upskill students to prepare them for successful post-secondary teaching careers.

   Goals and Objectives
   - Enroll 10 or more students
   - 100% completion/graduation rate for all enrolled certificate students

   Measures
   - Number of enrolled graduate students
   - Number of graduates with the certificate

3. Appalachian does not currently offer any graduate certificate programs (or graduate degree programs of any kind) which focus solely on mathematical content. The MA in Mathematics requires additional training in pedagogy, either at the secondary or post-secondary level, which is not desired or necessary for some students based on other degrees already held (e.g., undergraduate and/or graduate degrees in education) or work experience (e.g., teaching experience at the secondary level). If approved, the Graduate Certificate in Mathematics Content for College Teaching would provide students the option to complete only the coursework necessary to meet regional accreditors' criteria for teaching mathematics at the college or university level.

   Additionally, if approved, the Graduate Certificate in Mathematics Content for College Teaching would ***share already existing courses*** with the MA in Mathematics; ***share the same faculty who already teach those courses and the same course offering schedule*** as the MA in Mathematics; ***would not require any additional facilities*** as these courses would be offered online.

JUSTIFICATION OF THE PROGRAM

1. The proposed program as it relates to:

The institutional mission and strategic plan and response to UNC Tomorrow	
Institutional Strategic Priorities	**Proposed Program**
Providing Exceptional Educational Experiences ● *Deliver innovative, relevant academic programs.* ● *Leverage technology to support teaching and learning.*	The proposed program is designed to meet specific student demand as it relates to preparing students to teach mathematics at the post-secondary level. Additionally, the program is offered fully online and in the evening to provide access to working students and students for whom traveling to Boone or Hickory campuses would not be feasible.
Advancing Research, Innovation and Creativity ● *Elevate graduate programs*	The proposed program provides a certificate which would be utilized as part of larger STEM graduate degree programs now or in the future.
Advancing Local, Regional and Global Engagement ● *Foster student career readiness* ● *Expand educational access to rural and underserved communities.*	The proposed program provides students with training which is necessary for students to teach mathematics at North Carolina Community Colleges and other colleges and universities. Additionally, the online/evening nature of the program makes the program particularly beneficial to students from rural and underserved communities who may not be able to attend courses on the Boone or Hickory campuses.
Advancing Diversity, Equity and Inclusion ● *Identify and remove barriers to the success of historically underrepresented faculty, staff, and students.*	The proposed program's online/evening nature makes the program particularly beneficial to students from rural and underserved communities who may not be able to attend courses on the Boone or Hickory campuses. Additionally, the flexible nature of the program makes it more accessible to many groups of students who may have been historically excluded from opportunities in higher education.

- **Student demand (target audience, recruitment strategies)**

We are increasingly seeing interest from prospective students who want to complete 18 graduate hours in mathematics, but are not interested in completing the entire degree program. Currently, those students enroll as non-degree-seeking students, complete 18

credit hours, and leave the university without any credential. The proposed certificate program would indicate to potential future employers that not only has the student completed 18 graduate hours in mathematics and statistics, but also that the coursework provides the student with mathematical content knowledge relevant for college teaching.

Additionally, there is the opportunity to recruit students completing other graduate degrees at institutions in the region in areas such as mathematics education, where earning additional graduate credits in mathematics content may improve their job prospects. The flexible nature of this program makes it particularly appealing to these students.

- **Societal need**
  According to the Bureau of Labor Statistics and the North Carolina Department of Commerce, as of 2023, there were 1,796 postsecondary mathematical sciences educators, with the field expected to grow by approximately 1% per year over the next decade. With increased demand, Appalachian stands poised to help provide qualified and competent graduates who have the mathematical background necessary to fill these roles. In particular, the coursework included in the graduate certificate supports the mathematical content knowledge of teachers (see Speer et al. 2010) necessary for success at the postsecondary level.

  Speer, N.M., King, K.D. & Howell, H. Definitions of mathematical knowledge for teaching: using these constructs in research on secondary and college mathematics teachers. *J Math Teacher Educ* **18**, 105–122 (2015). https://doi.org/10.1007/s10857-014-9277-4

- **Impact on existing graduate programs of your institution**
  The core required courses and all electives will be satisfied by courses already regularly offered online in the Department of Mathematical Sciences through the MA in Mathematics. Additionally, we already teach many of the potential students who are currently taking courses as non-degree seeking students to earn the 18 graduate credit hours necessary to teach mathematics at the postsecondary level. The certificate, however, does allow the department to provide a valuable credential demonstrating these students work, and may also allow us to market ourselves to external audiences who may wish to complete this credential in order to become more competitive in their current careers (e.g. current high school teachers in early and middle college programs aligned with NC Community Colleges, or doctoral students in mathematics education who may wish to work in mathematics programs in the future).

2. **Identify similar programs offered elsewhere in North Carolina.**
   There are five graduate certificate programs in mathematics and/or statistics in the UNC system. Four of the five graduate certificates offered in the UNC system are graduate certificates in statistics/data science and only focused on providing statistical knowledge for practitioners, as opposed to educators.

The other is a post-baccalaureate certificate offered only in-person at North Carolina State University requiring 12 graduate credit hours. From their website, “The Graduate Certificate in Mathematics (GCM) program is aimed at students who want to enter a Ph.D. program in mathematics but lack some of the needed preparation because of late arrival to mathematics study, coming from a less rigorous program, etc. Students who are interested in further study in mathematics but do not plan to enter a Ph.D. program will also be considered.”

Additionally, the program requirements are as follows (again, from their website): “Students take a combination of graduate and undergraduate mathematics courses that are tailored to the individual student. The certificate requires 12 hours of mathematics courses, taken for a grade at NC State. There is no specific list of courses for the certificate.”

“Of the 12 hours, 3 hours may be at the 400 level with prior approval of the director of graduate programs. The other 9 hours will be at the 500 level or above. Students must complete at least one course per semester to remain in good standing. Students who have been out of school for some time or who need extra preparation before graduate courses may need to take additional 300- or 400-level courses prior to the 500-level courses. A grade of C- is required for a course to count toward the certificate. A 3.00 GPA (B average) is required to earn the certificate.”

If the program is similar to other UNC programs, explain a) why is it necessary or justified; and

The proposed certificate program is substantially different from the program at NC State, both in terms of the required coursework and modality. The program at NC State requires only 12 credit hours (which does not meet most regional accreditors requirements for teaching mathematics at the postsecondary level), only accepts mathematics courses (no statistics coursework) and has no specific required coursework.

Our proposed program requires 18 credit hours, is offered fully online, and has required coursework focusing on the mathematics and statistics content knowledge necessary for teaching at the postsecondary level.

b) why demand could not be met through a collaborative arrangement (perhaps using distance education) with another UNC institution.

As described above, our proposed program differs significantly from the NC State program both in scope and intent. Our program provides specific coursework to ensure

that students have the mathematical and statistical knowledge necessary to be effective educators at the post-secondary level.

ENROLLMENT

	Year 1	Year 2	Year 3	Year 4
Full-time	10	10	10	10
Part-time	14	16	18	20
TOTALS	24	26	28	30

The enrollment projections above are based on the following assumptions:

- The MA in Mathematics averages 12-15 full-time graduate students at any given time and, recently, 12-15 part-time graduate students. It is like that most, if not all, of these students would opt to enroll in the graduate certificate as well. For standardization purposes, we assume 10 full-time and 10 part-time MA in Mathematics students will enroll in the proposed certificate program.
- Additionally, we have recently seen approximately four non-degree seeking students per semester looking to complete coursework in the department. We estimate that in Year 1, these four would enroll in the proposed certificate program, with additional growth of 2 students per year.

PROGRAM REQUIREMENTS & CURRICULUM

1. **Program Planning**

   List the names of institutions with similar offerings regarded as high quality programs by the developers of the proposed program.

   - University of Memphis
   - Western New Mexico University

   List other institutions visited or consulted in developing this proposal. Also discuss or append any consultants' reports, committee findings, etc., generated in planning the proposed program.

   We reached out to representatives from University of Memphis and Western New Mexico University to inquire about the nature of the coursework in their certificate programs. We did not receive a reply.

2. **Program Requirements**

   Admissions Requirements: Baccalaureate degree from an accredited college or university; complete application to the Graduate School; undergraduate coursework in calculus, statistics, linear algebra, and analysis. In extenuating circumstances, an

applicant may obtain permission to remove deficiencies in coursework after entering the graduate program.

Completion Requirements

- Total hours required is 18 credit hours
- 67%-100% of the required credit hours are in courses that are restricted to graduate students. Possibly 6 credit hours of dual-listed coursework.
- Program Requirements are 18 hours of coursework as described in the program summary table below.

Program Summary Table

Mathematics Content for College Teaching Graduate Certificate

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Program Code: GCERT_XXXX_X

CIP Code: XX.XXXX

Program of Study for the Graduate Certificate in Mathematics Content for College Teaching

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Admission Requirements: Baccalaureate degree from an accredited college or university; complete application to the Graduate School, undergraduate coursework in calculus, statistics, linear algebra, and analysis. In extenuating circumstances, an applicant may obtain permission to remove deficiencies in coursework after entering the graduate program.

To be considered for admission, applicants must meet the criteria for admission to the Graduate School. Meeting this condition does not guarantee admission.

Location: Online

Course Requirements for the Mathematics Content for College Teaching

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Total Required (Minimum 18 Hours)

Required Courses (12 Hours)

- MAT 5230 - Linear Algebra (3)
- MAT 5330 - Mathematical Models (3)
- MAT 5610 - Analysis I (3)
- STT 5810 - Computational Probability (3)

Electives (6 Hours)

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6 hours of courses selected from the list below or an appropriate substitution approved by the program director.

- MAT 5125 - History of Mathematics (3)
- MAT 5160 - Complex Variables (3)
- MAT 5210 - Advanced Topics in Modern Algebra (3) [DL]
- MAT 5340 - Introduction to Operations Research (3)
- MAT 5590 - Advanced Topics in Differential Equations (3)
- MAT 5620 - Analysis II (3)
- MAT 5710 - Introduction to Topology (3)
- STT 5811 - Statistical Concepts and Applications I (3)
- Other MAT or STT content courses with permission of the graduate program director

FACULTY

1. **List the names of faculty who will be directly involved in the proposed program.**
    - Dr. Bill Cook, Professor of Mathematical Sciences
    - Dr. Ross Gosky, Professor of Mathematical Sciences
    - Dr. Rick Klima, Professor of Mathematical Sciences
    - Dr. Eric Marland, Professor of Mathematical Sciences
    - Dr. Quinn Morris, Associate Professor of Mathematical Sciences, Program Director

- Dr. Greg Rhoads, Professor of Mathematical Sciences
- Dr. René Salinas, Professor of Mathematical Sciences
- Dr. Joel Sanqui, Professor of Mathematical Sciences
- Dr. Noah Williams, Assistant Professor of Mathematical Sciences

2. **List faculty in other programs or departments who will or might be involved with the new program, either by teaching courses or serving on thesis or dissertation committees.**
    - None

3. **Estimate the need for new faculty for the proposed program over the first four years. If the teaching responsibilities for the proposed program will be absorbed in part or in whole by the present faculty, explain how this will be done without weakening existing programs.**
    - All courses in the proposed certificate program are currently being taught in the Department of Mathematical Sciences. Since we are already teaching many of the students we anticipate would apply for the certificate program, either as MA students or non-degree-seeking students, the program should not place additional strain on faculty nor should it result in weakening of the existing programs.

LIBRARY

Provide a statement as to the adequacy of present library holdings for the proposed program. The explanation should discuss the need for books, periodicals, reference material, primary source material, etc. What additional library support must be added to areas supporting the proposed program?

- The library currently has all materials that meet the needs of students enrolled in all the courses offered in the certificate program. We do not anticipate the need for additional materials.

FACILITIES AND EQUIPMENT

1. **Describe the effect of this new program on existing facilities and indicate whether they will be adequate, both at the commencement of the program and during the next decade.**
    - This is an online program. We do not anticipate any impact on facilities needed by the department with the creation of this new program.
2. **Describe current and future space needs (Office space for graduate students? Offices for new faculty? Labs?)**
    - This is an online program. We do not anticipate any increase in or modifications to space needed by the department with the creation of this new program.
3. **Discuss any information technology services needed and/or available.**
    - This is an online program. We do not anticipate any IT needs beyond the standard support provided for all students in terms of software license availability and support for university software.

4. **Discuss sources of financial support for any new facilities and equipment.**
    - This is an online program. We do not anticipate any new financial support needed by the department with the creation of this new program.

ADMINISTRATION

The Graduate Certificate in Mathematics Content for College Teaching will be administered by the graduate program in the Department of Mathematical Sciences, under the supervision of the graduate program director (currently, Dr. Quinn Morris). The program director will be responsible for recruitment, admission, and academic advising of students in the graduate certificate program. The program director will work with the Assistant Chair and Chair of the Department of Mathematical Sciences to schedule courses, and will work with departmental support personnel to issue permits for students.

ACCREDITATION

Indicate the names of all accrediting agencies normally concerned with programs similar to the one proposed. Describe any plans to request professional accreditation.

- No additional accreditation is required for the proposed certificate program.

SUPPORTING FIELDS

Are other subject-matter fields at Appalachian necessary or valuable in support of the proposed program? Is there needed improvement or expansion of these fields? To what extent will such improvement or expansion be necessary for the proposed program?

- The proposed certificate program does not overlap with any other subject-matter fields at Appalachian.

EVALUATION PLANS

Program Goals	
(a) the criteria to be used to evaluate the quality and effectiveness	● Enroll at least 15 students from the MA in Mathematics into the certificate program ● Enroll at least 5 certificate only students into the certificate program ● 90% of students who enroll in the certificate program complete either the certificate or the MA program.
(b) measures to be used to evaluate the program	● Number of graduates with the certificate ● Follow up survey after completion of the certificate (exit survey) ● Course evaluations ● Xitracs Assessment Data

(c) expected levels of productivity of the proposed program for the first four years of operation (number of graduates/certificate awardees)	We anticipate enrollment of around 20 students in the first year, with enrollment growing by 1-2 students per year thereafter. Beginning in Year 2, we expect to start seeing certificates awarded, with a goal of 60 total awarded by Year 5.
(d) the plan and schedule to evaluate the proposed new program prior to the completion of its fifth year of operation	Program evaluation will be conducted by the program director in years 2 & 4.

FINANCIAL INFORMATION

Revenue Category	Year 1	Year 2	Year 3	Year 4	Year 5	TOTALS
Regular Tuition (in state)	$8,831.97	$8,831.97	$8,831.97	$8,831.97	$8,831.97	**$44,159.95**
Regular Tuition (out of state)	$22,559.04	$22,559.04	$22,559.04	$22,559.04	$22,559.04	**$112,795.20**
Program Fees	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Grants & Contracts	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Gifts/Endowments	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
TOTALS	**$31,391.01**	**$31,391.01**	**$31,391.01**	**$31,391.01**	**$31,391.01**	**$156,955.15**

Note: Estimated revenue based on the 2024-2025 AppState Online tuition rates based on 5 students (3 in-state, 2 out-of-state) taking 9 credit hours toward the certificate each year (the additional students are already paying tuition toward their MA and should not be double counted).

Expense Category	Year 1	Year 2	Year 3	Year 4	Year 5	TOTALS
Assistantships	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
New Faculty Lines	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Equipment	$500.00	$500.00	$500.00	$500.00	$500.00	**$2,500.00**
Student Research Funding	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
Supplies & Materials	$0.00	$0.00	$0.00	$0.00	$0.00	**$0.00**
TOTALS	**$500.00**	**$500.00**	**$500.00**	**$500.00**	**$500.00**	**$2,500.00**

Note: Within the first 5 years of the program, we do not anticipate any additional costs because all courses are currently being offered within the MA in Mathematics program. However, some additional costs may be incurred due to increased numbers of supplies and other equipment/technological needs, and these are estimated in the table above.

ADDITIONAL INFORMATION

Include any additional information deemed pertinent to the review of this new program. For example, if the proposed program is a Professional Science Master's degree, include a list of proposed external advisory board members.

- None

G_COE_CLE_2024_1

Change all graduate courses that currently have the FCS prefix to the new CDE prefix. Some of the graduate courses are dual-listed and the prefix change for those courses can be found in proposal GU_COE_CLE_2024_2.

The Following List of GRADUATE Courses Need the FCS Prefix Changed to CDE (List for 3a):

Family Child Studies Courses from Graduate Bulletin:

FCS 5001 - Orientation to Research in Family and Consumer Sciences (3)

When Offered: Fall
Orientation to and examination of research methodologies, collection and analyses of data, and preparation of reports.
Prerequisites: Any undergraduate statistics course including ECO 2100 (Business and Economic Statistics I), STT 2810 (Introduction to Statistics) or STT 3820 (Statistical Methods I), or RES 4600/**RES 5600**, or equivalent.

FCS 5002 - Family and Consumer Sciences Perspectives and Integrative Frameworks (3)

When Offered: Fall
An examination of professional roles and behaviors, issues and trends, professional practice and ethics, and philosophical base of family and consumer sciences.

FCS 5100 - Application and Theories of Child Development (3)

When Offered: Fall, Odd-numbered years
Consideration of selected meanings, definitions, and functions of theories of child development as related to practical application of these theories to program planning and implementation for preschool children in home and group settings.

FCS 5140 - Family-Professional Partnerships in Birth Through Kindergarten Education (3)

When Offered: Fall, Even-numbered years
This course is designed to focus on major issues in the field of family studies and to understand the unique role of professionals who will be working in collaborative partnerships with families to promote positive outcomes for young children and their families. Students will incorporate existing research and current technology to develop a plan to assist families and children to reach their educational goals through family advocacy. Students will use this material to work directly with a family and develop a research-based presentation for class.

FCS 5305 - Recent Issues in Housing and Interiors (3)

When Offered: On Demand
A study of recent issues in housing and interiors.
Prerequisite: FCS 1300 (Housing Environments) or equivalent.

FCS 5310 - Historic Housing and Renovation (3)

When Offered: On Demand
A study of historical houses and their renovation for contemporary living.

FCS 5315 - Housing for the Elderly (3)

When Offered: On Demand
An overview of housing for the elderly including housing needs, available housing, accommodations, housing dissatisfactions, attitudes toward living arrangements, housing standards and design, congregate housing, housing disruption and site/location criteria.

Prerequisite: FCS 4315 (Habitats and Public Policy) or permission of the instructor.
Lecture three hours.

FCS 5400 - edTPA Preparation (3)

When Offered: On Demand
Students will be required to complete the edTPA portfolio by planning and implementing developmentally appropriate environments and learning experiences; interacting with children and their families; demonstrating an advanced level of reflection and integration; and participating in appropriate professional behavior, as outlined in the edTPA workbook for early childhood.
Prerequisite: **FCS 5112**

FCS 5500 - Independent Study (1-4)

When Offered: Fall, Spring
Graduate students may broaden or intensify their program through individual research and involvement in a given area of family and consumer sciences.

FCS 5525 - Product of Learning (1-3)

When Offered: On Demand
Graded on an S/U basis.

FCS 5530-5549 - Selected Topics (1-4)

When Offered: On Demand
An opportunity to study a special topic or combination of topics not otherwise provided for the Family and Consumer Sciences curriculum. May be repeated for credit when content does not duplicate.

FCS 5600 - Families, Economics and Demographic Change (3)

When Offered: On Demand
An examination of the economic pressures on families and how these pressures have helped to produce demographic change in families. This process will involve the identification of major demographic changes, discussion of key elementary economic concepts, and the application of these concepts to the family setting.
Prerequisite: FCS 2600 (Family Economics) or ECO 2030 (Principles of Economics - Price Theory) or equivalent.

FCS 5900 - Internship (3-12)

When Offered: Fall, Spring
A structured field experience, paid or unpaid, in an area related to the program and supervised by department faculty. A proposal is to be submitted to the departmental graduate faculty committee and be approved for participation the semester previous to beginning the experience. No credit will be given for experience not previously approved. If initial NC license is required through the NC Residency Model this internship provides direct teaching experiences in a Birth to Kindergarten classroom (3 sh.). Students will be required to complete this Clinical Internship with an action research project as determined by the student and their advisor. A requirement of the Residency License is that students must complete the clinical internship in the classroom where they are employed as a lead teacher in a public school classroom.
Prerequisite: 15 hours graduate courses toward certificate program and proposal approved.

FCS 5901 - Research Project (1-3)

When Offered: Fall, Spring
Implementation of an approved research proposal: collection and analysis of data, preparation of report(s) and presentation of project. FCS 5901 may be repeated for a total credit of three semester hours.
Prerequisite: **FCS 5001** and proficiency in statistics.

FCS 5989 - Graduate Research (1-9)

When Offered: Fall, Spring
This course is designed to provide access to University facilities for continuing graduate research at the master's and specialist's levels. FCS 5989 does not count toward a degree.
Graded on an S/U basis.

FCS 5999 - Thesis (1-4)

When Offered: Fall, Spring
Graded on an SP/UP basis until the thesis has been successfully defended and received final approval, at which time all grades will be changed to S.

Cross-Listed Courses Family Child Studies Courses from Graduate Bulletin:

Note: The course prefix change has been discussed and approved by Special Education (SPE) and Curriculum & Instruction (CI) as noted on question 7 of the AP&P Proposal

FCS 5010 - Evidence-Based Practice in Early Childhood Education (3) [CL]

When Offered: On Demand
This course will examine the meaning of evidence-based practice as it applies in early childhood education and intervention, with the goal of preparing students to become critical consumers of research. Students will review current literature concerning evidence-based practices for early childhood settings and explore ways to apply research findings in their professional practice across a variety of settings (e.g., school, home, intervention agency).
(Same as **SPE 5010**.)

FCS 5020 - Early Intervention (3) [CL]

When Offered: On Demand
This course will acquaint students with federal legislation pertaining to early intervention (EI) and examine multiple ways that early intervention (EI) professionals provide services in a variety of settings (e.g., home, child care facilities, schools, agencies, and community settings such as parks and grocery stores). Characteristics and needs associated with specific disabilities will be addressed as well as strategies to individualize services for children and their families.
(Same as **SPE 5020**.)

FCS 5111 - Advanced Developmental Assessment and Program Evaluation for Children (3) [CL]

When Offered: On Demand
This course is designed to provide students with skills and knowledge in assessing the development of children, and the interests, concerns, and priorities of families. Students will collect data for the purpose of monitoring children's progress, family outcomes, and program effectiveness.
(Same as **C_I 5111**/**SPE 5111**.)

FCS 5112 - Advanced Developmental Curriculum and Instruction for Young Children (3) [CL]

When Offered: On Demand
This course is designed to provide students with advanced skills and knowledge in application of a research base to design, adapt and evaluate curriculum and environments suitable for the integration of infants, toddlers, preschool and kindergarten children of various developmental levels and abilities in inclusive settings.
(Same as SPE 5112.)

FCS 5113 – Seminar: Issues in Birth through Kindergarten Education (3) [CL]

When Offered: On Demand
This seminar is designed to build leadership skills to enable the student to consult and collaborate with other professionals. It will permit the development of depth and breadth in professional growth as well, and provide the foundation for life-long learning for the advancement of knowledge in the field of early childhood education and early intervention.
(Same as SPE 5113.)

The Following List of GRADUATE Courses Have the Updated CDE Prefix (List for 3b):

Family Child Studies Courses from Graduate Bulletin:

CDE 5001 - Orientation to Research in Family and Consumer Sciences (3)

When Offered: Fall
Orientation to and examination of research methodologies, collection and analyses of data, and preparation of reports.
Prerequisites: Any undergraduate statistics course including ECO 2100 (Business and Economic Statistics I), STT 2810 (Introduction to Statistics) or STT 3820 (Statistical Methods I), or RES 4600/RES 5600, or equivalent.

CDE 5002 - Family and Consumer Sciences Perspectives and Integrative Frameworks (3)

When Offered: Fall
An examination of professional roles and behaviors, issues and trends, professional practice and ethics, and philosophical base of family and consumer sciences.

CDE 5100 - Application and Theories of Child Development (3)

When Offered: Fall, Odd-numbered years
Consideration of selected meanings, definitions, and functions of theories of child development as related to practical application of these theories to program planning and implementation for preschool children in home and group settings.

CDE 5140 - Family-Professional Partnerships in Birth Through Kindergarten Education (3)

When Offered: Fall, Even-numbered years
This course is designed to focus on major issues in the field of family studies and to understand the unique role of professionals who will be working in collaborative partnerships with families to promote positive outcomes for young children and their families. Students will incorporate existing research and current technology to develop a plan to assist families and children to reach their educational goals through family advocacy. Students will use this material to work directly with a family and develop a research-based presentation for class.

CDE 5305 - Recent Issues in Housing and Interiors (3)

When Offered: On Demand
A study of recent issues in housing and interiors.
Prerequisite: CDE 1300 (Housing Environments) or equivalent.

CDE 5310 - Historic Housing and Renovation (3)

When Offered: On Demand
A study of historical houses and their renovation for contemporary living.

CDE 5315 - Housing for the Elderly (3)

When Offered: On Demand
An overview of housing for the elderly including housing needs, available housing, accommodations, housing dissatisfactions, attitudes toward living arrangements, housing standards and design, congregate housing, housing disruption and site/location criteria.
Prerequisite: CDE 4315 (Habitats and Public Policy) or permission of the instructor.
Lecture three hours.

CDE 5400 - edTPA Preparation (3)

When Offered: On Demand
Students will be required to complete the edTPA portfolio by planning and implementing developmentally appropriate environments and learning experiences; interacting with children and their families; demonstrating an advanced level of reflection and integration; and participating in appropriate professional behavior, as outlined in the edTPA workbook for early childhood.
Prerequisite: CDE 5112

CDE 5500 - Independent Study (1-4)

When Offered: Fall, Spring
Graduate students may broaden or intensify their program through individual research and involvement in a given area of family and consumer sciences.

CDE 5525 - Product of Learning (1-3)

When Offered: On Demand
Graded on an S/U basis.

CDE 5530-5549 - Selected Topics (1-4)

When Offered: On Demand
An opportunity to study a special topic or combination of topics not otherwise provided for the Family and Consumer Sciences curriculum. May be repeated for credit when content does not duplicate.

CDE 5600 - Families, Economics and Demographic Change (3)

When Offered: On Demand
An examination of the economic pressures on families and how these pressures have helped to produce demographic change in families. This process will involve the identification of major demographic changes, discussion of key elementary economic concepts, and the application of these concepts to the family setting.
Prerequisite: CDE 2600 (Family Economics) or ECO 2030 (Principles of Economics - Price Theory) or equivalent.

CDE 5900 - Internship (3-12)

When Offered: Fall, Spring
A structured field experience, paid or unpaid, in an area related to the program and supervised by department faculty. A proposal is to be submitted to the departmental graduate faculty committee and be approved for participation the semester previous to beginning the experience. No credit will be given for experience not previously approved. If initial NC license is required through the NC Residency Model this internship provides direct teaching experiences in a Birth to Kindergarten classroom (3 sh.). Students will be required to complete this Clinical Internship with an action research project as determined by the student and their advisor. A requirement of the Residency License is that students must complete the clinical internship in the classroom where they are employed as a lead teacher in a public school classroom.
Prerequisite: 15 hours graduate courses toward certificate program and proposal approved.

CDE 5901 - Research Project (1-3)

When Offered: Fall, Spring
Implementation of an approved research proposal: collection and analysis of data, preparation of report(s) and presentation of project. FCS 5901 may be repeated for a total credit of three semester hours.
Prerequisite: **CDE 5001** and proficiency in statistics.

CDE 5989 - Graduate Research (1-9)

When Offered: Fall, Spring
This course is designed to provide access to University facilities for continuing graduate research at the master's and specialist's levels. CDE 5989 does not count toward a degree.
Graded on an S/U basis.

CDE 5999 - Thesis (1-4)

When Offered: Fall, Spring
Graded on an SP/UP basis until the thesis has been successfully defended and received final approval, at which time all grades will be changed to S.

Cross-Listed Courses Family Child Studies Courses from Graduate Bulletin:

Note: The course prefix change has been discussed and approved by Special Education (SPE) and Curriculum & Instruction (CI) as noted on question 7 of the AP&P Proposal

CDE 5010 - Evidence-Based Practice in Early Childhood Education (3) [CL]

When Offered: On Demand
This course will examine the meaning of evidence-based practice as it applies in early childhood education and intervention, with the goal of preparing students to become critical consumers of research. Students will review current literature concerning evidence-based practices for early childhood settings and explore ways to apply

research findings in their professional practice across a variety of settings (e.g., school, home, intervention agency).
(Same as SPE 5010.)

CDE 5020 - Early Intervention (3) [CL]

When Offered: On Demand
This course will acquaint students with federal legislation pertaining to early intervention (EI) and examine multiple ways that early intervention (EI) professionals provide services in a variety of settings (e.g., home, child care facilities, schools, agencies, and community settings such as parks and grocery stores). Characteristics and needs associated with specific disabilities will be addressed as well as strategies to individualize services for children and their families.
(Same as SPE 5020.)

CDE 5111 - Advanced Developmental Assessment and Program Evaluation for Children (3) [CL]

When Offered: On Demand
This course is designed to provide students with skills and knowledge in assessing the development of children, and the interests, concerns, and priorities of families. Students will collect data for the purpose of monitoring children's progress, family outcomes, and program effectiveness.
(Same as C_I 5111/SPE 5111.)

CDE 5112 - Advanced Developmental Curriculum and Instruction for Young Children (3) [CL]

When Offered: On Demand
This course is designed to provide students with advanced skills and knowledge in application of a research base to design, adapt and evaluate curriculum and environments suitable for the integration of infants, toddlers, preschool and kindergarten children of various developmental levels and abilities in inclusive settings.
(Same as SPE 5112.)

CDE 5113 - Seminar: Issues in Birth through Kindergarten Education (3) [CL]

When Offered: On Demand
This seminar is designed to build leadership skills to enable the student to consult and collaborate with other professionals. It will permit the development of depth and breadth in professional growth as well, and provide the foundation for life-long learning for the advancement of knowledge in the field of early childhood education and early intervention.
(Same as SPE 5113.)

GU_COE_CLE_2024_1

1) Create the course prefix CDE (Child Development and Education).
 - Separate proposals will be submitted to update the prefixes for undergraduate (U_COE_CLE_2024_1), graduate (G_COE_CLE_2024_1), and dual-listed courses (GU_COE_CLE_2024_2).

GU_COE_CLE_2024_2

Change all dual-listed courses that currently have the FCS prefix to the new CDE prefix.

GU_COE_CLE_2024_2
Current and proposed Bulletin copy

The Following List of DUAL-LISTED Courses Need the FCS Prefix Changed to CDE (List for 3a):

Current Dual-Listed Courses in the Undergraduate Bulletin:

FCS 4551 - Families in Later Life (3)

When Offered: Fall
In-depth study of factors influencing interrelationships in family development in the later years. Lecture three hours.
Prerequisite: **FCS 2103** or permission of the instructor.
[Dual-listed with FCS 5551.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

FCS 4610 - Administration of Early Childhood Programs (3)

When Offered: Spring
A study of the role of the program administrator in a variety of early childhood settings, both public, private and non-profit. This study will involve program planning, staff administration, assessment of facility and equipment needs, appropriate program and financial management using computer management software and studying the state regulations that govern programs for young children. Lecture three hours.
Prerequisite: **FCS 4556** or **FCS 4602** or **FCS 3110** or permission of the instructor.
[Dual-listed with FCS 5610.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

FCS 4611 - Introduction to Child Life (3)

When Offered: Summer Session
This course is designed to prepare students to work in non-medical professions with families and children in a hospital setting. The course includes an understanding of procedures, illnesses, and stress along with theory and practice to better serve families. This course is taught by a Certified Child Life Specialist and meets the requirements for the Child Life Council.
[Dual-listed with FCS 5611.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

Current Dual-Listed Courses in the Graduate Bulletin:

FCS 5551 - Families in Later Life (3) [DL]

When Offered: Fall
In-depth study of factors influencing interrelationships in family development in the later years.
Prerequisite: FCS 2103 (Family Development Over the Life Cycle) or permission of the instructor.
Lecture three hours. [Dual-listed with FCS 4551.]

FCS 5610 - Administration of Early Childhood Programs (3) [DL]

When Offered: Spring
A study of the role of the program administrator in a variety of early childhood settings, both public, private, and non-profit. This study will involve program planning, staff administration, assessment of facility and equipment needs, appropriate program and financial management using computer management software and studying the state regulations that govern programs for young children.
Prerequisite: FCS 4556 (Infant/Toddler Curriculum) or FCS 4602 (Preschool Curriculum and Instruction) or FCS 3110 (Enriching Experiences and Programming for School-Age Children) or permission of the instructor.
Lecture three hours. [Dual-listed with FCS 4610.]

FCS 5611 - Introduction to Child Life (3) [DL]

When Offered: Summer Session
This course is designed to prepare students to work in non-medical professions with families and children in a hospital setting. The course includes an understanding of procedures, illnesses, and stress along with theory and practice to better serve families. This course is taught by a Certified Child Life Specialist and meets the requirements for the Child Life Council.
[Dual-listed with FCS 4611.]

The Following List of DUAL-LISTED Courses Have Had the Prefix Changed to CDE (List for 3b):

Proposed Dual-Listed Courses in the Undergraduate Bulletin:

CDE 4551 - Families in Later Life (3)

When Offered: Fall
In-depth study of factors influencing interrelationships in family development in the later years. Lecture three hours.
Prerequisite: **CDE 2103** or permission of the instructor.
[Dual-listed with CDE 5551.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

CDE 4610 - Administration of Early Childhood Programs (3)

When Offered: Spring
A study of the role of the program administrator in a variety of early childhood settings, both public, private and non-profit. This study will involve program planning, staff administration, assessment of facility and equipment needs, appropriate program and financial management using computer management software and studying the state regulations that govern programs for young children. Lecture three hours.
Prerequisite: **CDE 4556** or **CDE 4602** or **CDE 3110** or permission of the instructor.
[Dual-listed with CDE 5610.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

CDE 4611 - Introduction to Child Life (3)

When Offered: Summer Session
This course is designed to prepare students to work in non-medical professions with families and children in a hospital setting. The course includes an understanding of procedures, illnesses, and stress along with theory and practice to better serve families. This course is taught by a Certified Child Life Specialist and meets the requirements for the Child Life Council.
[Dual-listed with CDE 5611.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

Proposed Dual-Listed Courses in the Graduate Bulletin:

CDE 5551 - Families in Later Life (3) [DL]

When Offered: Fall
In-depth study of factors influencing interrelationships in family development in the later years.
Prerequisite: CDE 2103 (Family Development Over the Life Cycle) or permission of the instructor.
Lecture three hours. [Dual-listed with CDE 4551.]

CDE 5610 - Administration of Early Childhood Programs (3) [DL]

When Offered: Spring
A study of the role of the program administrator in a variety of early childhood settings, both public, private, and non-profit. This study will involve program planning, staff administration, assessment of facility and equipment needs, appropriate program and financial management using computer management software and studying the state regulations that govern programs for young children.
Prerequisite: CDE 4556 (Infant/Toddler Curriculum) or CDE 4602 (Preschool Curriculum and Instruction) or CDE 3110 (Enriching Experiences and Programming for School-Age Children) or permission of the instructor.
Lecture three hours. [Dual-listed with CDE 4610.]

CDE 5611 - Introduction to Child Life (3) [DL]

When Offered: Summer Session
This course is designed to prepare students to work in non-medical professions with families and children in a hospital setting. The course includes an understanding of procedures, illnesses, and stress along with theory and practice to better serve families. This course is taught by a Certified Child Life Specialist and meets the requirements for the Child Life Council.
[Dual-listed with CDE 4611.]

Appalachian State University

G_COE_CLE_2024_2
This proposal is to remove RES 5000 as an optional research course from the program of study for the Masters of Art in Special Education (MA_476A)
Current and Proposed Bulletin copy

Special Education, MA

Program Code: MA_476A_1
CIP Code: 13.1001

Program of Study for the Master of Arts in Special Education

Advanced Licensure: Requirements for this program were designed, and have been approved by the appropriate bodies at the state level, to meet the advanced competencies as mandated in the North Carolina Excellent Schools Act for Master-level (M-level) teacher education programs ONLY for students with A-level license from North Carolina or equivalent. Graduates seeking M-level license must have A-level license at the time of application for M-level license.

Admission Requirements: Baccalaureate degree from an accredited college or university; **complete the application to the Graduate School**.

To be considered for admission, applicants must meet the **criteria for admission to the Graduate School**. Meeting these criteria does not guarantee admission.

Location: Boone Campus and Online (part time/part-time extended format)

Accelerated Master's Program

This program offers an **Accelerated Master's** option for undergraduate students with a **3.2 or higher** currently enrolled at Appalachian State University.

Course Requirements for the Master of Arts in Special Education

Total Required (Minimum 36 Hours)

Required Courses (21 Hours)

- **SPE 5584 - Special Education Law and Leadership (3)**

- **SPE 5610 - Classroom Management for Effective Instruction (3)**

Choose One From the Following Research Courses (3 Hours)

- **LIT 5040 - Teacher as Researcher (3) [CL]**
- **SPE 5030 - Research Informing Practice in Special Education (3)**
- **SPE 5040 - Teacher as Researcher (3) [CL]**
- ~~**RES 5000 - Research Methods (3)**~~

Choose From the Following Practicum Courses (3 Hours)

- **LIT 5725 - Practicum in the Clinical Teaching of Reading (3)**
- **LIT 5735 - Practicum in Teaching Severely Disabled Readers (3)**
- **SPE 5901 - Practicum (1-3)** (3 Hours)

Choose one course from each disability area (9 Hours)

Emotional/Behavioral Disorders

- **SPE 5210 - Relationship-Based Interventions for Students with Emotional and Behavioral Disorders (3)**
- **SPE 5646 - Advanced Studies of Academic Interventions for Students with Emotional and Behavioral Disorders (3)**
- **SPE 5648 - Psychoeducational Approaches in the Study of Emotional Disturbance (3)**

Learning Disabilities

- **SPE 5220 - Characteristics, Identification, and Instruction of Individuals with Specific Learning Disabilities in the General Curriculum (3)**
- **SPE 5636 - Advanced Studies in Specific Learning Disabilities (3)**

Intellectual Disabilities

- **SPE 5230 - Assessment and Instruction of Individuals with Intellectual Disabilities (3)**

- **SPE 5626 - Advanced Studies in Intellectual Disabilities (3)**

Thesis Option (15 Hours)

Choose One:

With Thesis (15 Hours)

- **SPE 5999 - Thesis (1-4)** (3 Hours)
- 12 hours of graduate electives chosen with the graduate advisor's approval, see the list of Suggested Electives below

Without Thesis (15 Hours)

- **LIT 5525 - Product of Learning (1-3) [CL]** (3 Hours)
- or
- **SPE 5525 - Product of Learning (1-3) [CL]** (3 Hours)
-
- 12 hours of graduate electives chosen with the graduate advisor's approval, see the list of Suggested Electives below

Suggested Electives

Elective hours must be chosen in consultation with the advisor from Special Education or related areas such as Literacy Education, Curriculum and Instruction, Psychology, Communication Sciences and Disorders, and Child Development. Recommended Courses are listed below, but other graduate courses may be taken with advisor approval.

- **LIT 5010 - Literacy Instruction and Assessment for Students with Autism (3)**
- **LIT 5100 - Teaching Beginning Readers and Writers (3)**
- **LIT 5210 - Educating Students with Reading Disabilities (3)**
- **SPE 5045 - Advanced Topics in Diversity (3) [CL]**
- **SPE 5110 - Nature of Autism (3)**
- **SPE 5120 - Effective Educational Practices for Students with Autism (3)**

- **SPE 5130 - Assistive Technologies in Support of Individuals with Autism (3)**
- **SPE 5140 - Social Communication in Autism (3)**
- **SPE 5150 - Advanced Classroom Management and Behavior Support (3)**
- **SPE 5205 - Inclusion (3) [DL]**
- **SPE 5240 - Mathematics for Special Education Teachers (3) [CL]**
- **SPE 5250 - Teaching Mathematics to Students with Learning Disabilities (3)**
- **SPE 5595 - Individual Differences (3)**
- **SPE 5630 - Collaboration and Advocacy (3)**
- **SPE 5640 - Transition Planning and Assessment: Pathways to Independence for Students with Disabilities (3)**

Other Requirements for the MA in Special Education

- **Thesis:** Optional
- **Proficiency:** Not required
- **Candidacy:** Not required
- **Comprehensive:** Not required
- **Product of Learning: LIT 5525** or **SPE 5525** required unless the thesis option is selected

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G_COE_LES_2024_1

Add a Graduate Certificate within the Department of Leadership and Educational Studies (LES) titled, "Applied Educational Research" [GCERT_721A] (Post-Masters)

Applied Educational Research Graduate Certificate

Program Code: GCERT_721A
CIP Code:

Program of Study for the Applied Educational Research Graduate Certificate

Admission Requirements: Master's ~~Graduate~~ degree ~~or enrollment in a graduate program~~ from an accredited institution in the following areas: business, communication, education, leadership, or other related fields. A current or earned graduate degree with a GPA of 3.0 or higher. Complete application to the Graduate School.

To be considered for admission, applicants must meet the criteria for admission to the Graduate School. Meeting this condition does not guarantee admission.

Location: Online

Course Requirements for the Applied Educational Research Graduate Certificate

Total Required (15 Hours)

Required Courses (3 Hours)

RES 7175: Quantitative Data Analysis for Educational Leaders (3)

a. *OR* RES 7180: Qualitative Research Methods and Analysis (3)

~~*RES 6000: Advanced Research Methods, Design, and Application (3) OR RES 5600: Educational Statistics (3) can be substituted for non-EdD students*~~

Elective Courses – 12 hours (students choose 4):

- RES 7115: Mixed Methods Research in Education (3)
- RES 7120: Instrument Design and Measurement (3)
- RES 7170: Program Evaluation (3)
- RES 7210: Qualitative Interviewing (3)
- RES 7215: Qualitative Document Analysis and Archival Research (3)
- RES 7260: Writing and Representing Qualitative Research (3)
- RES 7310: Action Research in Education (3)
- Other RES-prefix course approved by faculty advisor (3)

Other requirements:

Thesis: Not required

Proficiency: Not required
Comprehensive: Not required
Product of Learning: Not required

G_COE_LTC_2024_1

For the Middle/Secondary Teaching Graduate Certificate
(446A_1):

1. Remove MTL 5630 out of the Program of Study Required Courses
2. Add CI 5553 Literacy, Popular Culture, and Representation for Diverse Learners in the required course list.
3. Remove CI 5850 Middle Level Curriculum from the Middle Grades Education Track
4. ADD CI 5480 Advanced Classroom Management for Young Adolescents

20254-20265 Graduate Bulletin

Appalachian State University

Middle and Secondary Teaching Graduate Certificate

Program Code: GCERT_446A_1
CIP Code: 13.1206

Program of Study for the Graduate Certificate in Middle and Secondary Teaching

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Admission Requirements: Baccalaureate degree in approved field with relevant coursework in the area of study from an accredited college or university with a minimum 2.7 cumulative GPA; **complete application to the Graduate School**.

To be considered for admission, applicants must meet the **criteria for admission to the Graduate School**. Meeting this condition does not guarantee admission.

Note: This certificate with the successful completion of appropriate licensure exams and program requirements will allow candidates to be eligible for a NC Professional Educator's License in one or more of the Middle Grades Education, Secondary Science, Secondary Mathematics, or Secondary English Licensure Areas.

Minimum GPA to Qualify for Regular Admission: 2.7

Location: Boone Campus and Online

Course Requirements for the Graduate Certificate in Middle and Secondary Education

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PRAXIS II exams and other specific requirements may be necessary to meet North Carolina A-Level Teaching License requirements.

Total Required (Minimum 21 Hours)

Required Courses (12 Hours)

- **C_I 5550 - Successful Schools for Young Adolescents (3)**
- ~~**MTL 5630 - Instructional Technology (3)**~~
- **C_I 5750 - Teaching Diverse Young Adolescents (3)**
- **EDU 5900 - Graduate Student Teaching (3)**
- C I 5553 -Literacy, Popular Culture, & Representation for Diverse Learners (3)

Track-based Courses

Choose One Track:

Middle Grades Education (9 Hours)

- **C_I 5650 - Middle Level Instruction and Assessment (3)**
- **C_I 5660 - Developing Expertise in Academic Content (3)**
- ~~**C_I 5850 - Middle Level Curriculum (3)**~~
- C I 5480 - Advanced Classroom Management of Young Adolescents (3)

Secondary English (9 Hours)

- **ENG 5200 - Issues in Teaching English (3)**
- **ENG 5400 - Appalachian Writing Project (3 or 6)** (3 Hours)
- **ENG 5560 - Adolescent Literature (3) [DL]**

Secondary Mathematics (9 Hours)

- **C_I 5085 - Teaching High School Mathematics (3) [DL]**
- **MAT 5015 - Advanced Seminar in Secondary Mathematics Education (3) [DL]**
- 3 hours of coursework chosen in consultation with a mathematics advisor

Secondary Science (9 Hours)

- **G_S 5403 - Teaching Science in Middle and High Schools (3) [DL]**
- **G_S 5404 - The Meaning and Nature of Science (3) [DL]**
- 3 hours of coursework chosen in consultation with a science advisor

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GU_COE_LTC_2024_1

Create a course titled CI 5480 Advanced Classroom Management of Young Adolescents, to focus on classroom management, and also dual-list it with CI 4480 Middle Grades Classroom Management

G_COE_MCL_2024_1
Change course description for ITL 6200 - Technology for International Collaborations

Current Bulletin copy
ITL 6200 - Technology for International Collaborations (3)
When Offered: On Demand
Educational, business, and government leaders in today's world require an understanding of the world's cultures, and a sensitivity for cultural traditions. This course provides an overview and application of online communication tools to support global virtual teams, groups of workers in organizations that are separated by time, geographic distance, culture, and/or organizational boundaries, who rely on communication technologies to interact and complete projects. In this course, students will work together on relevant research projects, related to real world issues in technology for international collaborations. These collaborations between and among international students will be completed both synchronously and asynchronously using current communication technologies, such as social media, teleconferencing, and within 3D immersive environments.

Proposed Bulletin copy
ITL 6200 - Technology for International Collaborations (3)
When Offered: On Demand
This course explores the use of technology to address global challenges, examining project management methodologies and virtual teamwork strategies that foster innovation and impactful solutions. Through a combination of theoretical frameworks and practical experiences, students will leverage technology to address global challenges effectively in collaborative settings.

G_COE_MCL_2024_8
Change the description of the course, LIB 5030 Organization of Information.

Current Bulletin copy
LIB 5030 Organization of Information (3)
When offered: Spring
This course examines the skills and knowledge necessary for today's school and public librarians to process and organize all types of media and information formats, including print, non-print, and electronic resources. Descriptive and value-added cataloging, MARC records, Resource Description and Access, virtual libraries, union catalogs, digital information sources and storage devices, automated cataloging systems, folksonomies and social classification, indexing, subject heading lists, classification systems and current organizational practices, and theories and rules are explored and evaluated.

Proposed Bulletin copy
LIB 5030 Organization of Information (3)
When offered: Spring
This course examines the skills and knowledge necessary for today's librarians to process and organize all types of media and information formats, including print, non-print, and electronic resources. Descriptive and value-added cataloging, MARC records, Resource Description and Access, virtual libraries, union catalogs, digital information sources and storage devices, automated cataloging systems, folksonomies and social classification, indexing, subject heading lists, classification systems and current organizational practices, and theories and rules are explored and evaluated.

G_COE_MCL_2024_9
Change the description of the course, LIB 5060 Building Connections to Community and Culture.

Current Bulletin copy
LIB 5060 Building Connections to Community and Culture (3)
When offered: Summer
In this course, students will explore cultural issues and their relevance to the role of the public librarian and school media specialist in providing library services to the local, regional, national and international community. Elements of culture, such as oral narratives, genealogy, community history, and literature, will be examined through a local and global perspective. In some cases, study abroad experiences will provide opportunities to examine community and cultural issues on an international level.

Proposed Bulletin copy
LIB 5060 Building Connections to Community and Culture (3)
When offered: Summer
In this course, students will explore cultural issues and their relevance to the role of the librarian in providing library services to the local, regional, national and international community. Elements of culture, such as oral narratives, genealogy, community history, and literature, will be examined through a local and global perspective. In some cases, study abroad experiences will provide opportunities to examine community and cultural issues on an international level.

G_COE_MCL_2024_2

Change course name and description for ITL 6300 - International Leadership for Sustainability (3) and remove prerequisites

Current Bulletin copy

ITL 6300 - International Leadership for Sustainability (3)
When Offered: On Demand
This course is designed to help future leaders create solutions for many of the social and environmental challenges existing today. The course prepares future leaders to problem-solve through the lens of sustainability and international development. The course also focuses on the development of leadership skills that emphasize local to global connections by allowing students the opportunity to engage in sustainability-focused service opportunities that make differences in our community and beyond.
Prerequisites: ITL 6100 and ITL 6200

Proposed Bulletin copy

ITL 6300 - Leadership for Global Challenges (3)
When Offered: On Demand
This course empowers future leaders to tackle the complex social, economic, and environmental challenges of our interconnected world. Through a combination of theoretical exploration, case studies, and practical applications, participants will develop the skills and perspectives necessary to address pressing global and thematic challenges effectively.

G_COE_MCL_2024_3

Change course description for ITL 6400 - Leadership for International Teams (3) and remove prerequisites

Current Bulletin copy

ITL 6400 - Leadership for International Teams (3)
When Offered: On Demand
Students in this course will build upon their knowledge of cultural mapping (ITL 6100) and use of technology (ITL 6200) to develop simulated virtual teams composed of members from diverse cultures to work toward common or shared goals. They will learn the theory behind international leadership and management as well as the practical skills of management. Students will engage in simulations and virtual team work as they partner with students from an international partner institution.
Prerequisites: ITL 6100 and ITL 6200

Proposed Bulletin copy

ITL 6400 - Leadership for International Teams (3)
When Offered: On Demand
This course prepares students to lead and manage diverse teams effectively within a global context by exploring both the theoretical foundations of international leadership and practical management skills. Through simulations and interactive activities, students will develop essential skills in cross-cultural communication, team building, decision-making, and problem-solving within multicultural environments.

G_COE_MCL_2024_4

Add a new course ITL 6500 - International Leadership Practicum to the International Leadership Certificate [ITL]

Proposed Bulletin copy

ITL 6500 - International Leadership Practicum (1)
When Offered: On Demand
This course offers students an immersive international experience to apply and synthesize the knowledge and skills gained throughout the program. Participants will explore solutions to global challenges in real-world settings to gain a deeper understanding of the complexities of leadership in an international context. This course includes a mandatory overseas travel component, with associated travel costs not included in the program tuition.

G_COE_MCL_2024_5

Change #1 to read:
Change Program of Study for International Leadership Certificate GCERT_716A_1
1. Change required hours to 13
2. UPDATE Course title for ITL 6300 to ITL 6300 – Leadership for Global Challenges (3) (title and description change requested in Proposal G_COE_MCL_2024_2)
3. Add ITL 6500 – International Leadership Practicum (1)

~~2024-2025~~ **Graduate Bulletin** 2025-2026

Appalachian State University

International Leadership Graduate Certificate

Program Code: GCERT_716A_1
CIP Code: 30.9999

Program of Study for the Graduate Certificate in International Leadership

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Admission Requirements: Baccalaureate degree from an accredited college or university; **complete application to the Graduate School**.

To be considered for admission, applicants must meet the **criteria for admission to the Graduate School**. Meeting this condition does not guarantee admission.

Location: Online

Course Requirements for the Graduate Certificate in International Leadership

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Total Required ~~**(Minimum 12 Hours)**~~ **(Minimum 13 Hours)**

Required Courses ~~**(12 Hours)**~~ **(13 Hours)**

- **ITL 6100 - Cross Cultural Communication in Global Leadership (3)**
- **ITL 6200 - Technology for International Collaborations (3)**
- ~~**ITL 6300 - International Leadership for Sustainability (3)**~~
- **ITL 6300 – Leadership for Global Challenges (3)**
- **ITL 6400 - Leadership for International Teams (3)**
- **ITL 6500 – International Leadership Practicum (1)**

G_COE_MCL_2024_14 Change the program of study, LIB 465B_1 School Libraries (MLS_465B_1)
Add: LIB 5520 Capstone
Change: Change: Required & Concentration hours

Current and proposed Bulletin

~~2024-2025~~ 2025-2026**Graduate Bulletin**

Appalachian State University

Library Science, General - School Libraries Concentration, MLS

Program Code: MLS_465B_1
CIP Code: 25.0101

Program of Study for the Master of Library Science in Library Science, General

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Admission Requirements: Earned baccalaureate degree with a 2.75 GPA or higher ***or*** earned graduate degree from an accredited college or university; **complete application to the Graduate School**.

To be considered for admission, applicants must meet the criteria for admission to the Graduate School. Meeting this criteria does not guarantee admission.

Location: Online

Additional Information on Program

Students who hold NC "A" licensure and present passing scores on the specialty area PRAXIS/NTE are entitled to apply for 076 Media Coordinator Licensure from the North Carolina Department of Public Instruction. Students who do not hold a valid North Carolina teaching license will be required to take additional coursework and internship hours in order to seek 076 licensure.

Course Requirements for the Master of Library Science

Total Required (Minimum 36 Hours)

Required Courses ~~**(12 Hours)**~~ **(15 Hours)**

- **LIB 5000 - Foundations of Library Science (3)**
- **LIB 5030 - Organization of Information (3)**
- **RES 5000 - Research Methods (3)**
- LIB 5520 – Capstone (3)
- Choice of technology elective (3 Hours)

Concentration Requirements ~~(24 Hours)~~ (21 Hours)

- **LIB 5010 - Collection Development and Management (3)**
- **LIB 5040 - Strategic Administration of School Media Resources and Services (3)**
- **LIB 5070 - Integrating Literature and Media into Instruction (3)**
- **LIB 5080 - Collaborative Media Program Planning and Evaluation (3)**
- **LIB 5195 - Critical Issues in Literature and Media (3)**
- ~~Two~~ One program (or program approved) electives ~~(6 Hours)~~ (3 Hours)
- Select One of the Following Two Courses in Consultation with an Advisor.
  Must be completed in a school media center under supervision of a licensed media coordinator:
- **LIB 5900 - Internship/Practicum (1-6)** (3 Hours)
- OR
- **LIB 5910 - Applications of Librarianship Standards (1-6)** (3 Hours)

Other Requirements for the MLS

Thesis: Not required
Proficiency: Not required
Candidacy: Required; see the program director for specific timeline and requirements for admission to candidacy
Comprehensive: Required Portfolio
Product of Learning: Not required

G_COE_MCL_2024_15

Change the program of study, LIB 465D_1 General, Library Science MLS_465D; Add: LIB 5520 Capstone (3); Change: Required, Concentration, and Elective hours

Current and proposed Bulletin

~~2024-2025~~ 2025-2026 **Graduate Bulletin**

Appalachian State University

Library Science, General - Library Science, General Concentration, MLS

Program Code: MLS_465D
CIP Code: 25.0101

Program of Study for the Master of Library Science in Library Science, General

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Admission Requirements: Earned baccalaureate degree with a 2.75 GPA or higher ***or*** earned graduate degree from an accredited college or university; **complete application to the Graduate School**.

To be considered for admission, applicants must meet the criteria for admission to the Graduate School. Meeting this criteria does not guarantee admission.

Location: Online

Additional Information on Program

Completing this program entitles students to apply for Public Librarian Certification from the North Carolina Public Librarian Certification Commission.

Course Requirements for the Master of Library Science

Total Required (Minimum 36 Hours)

Required Courses ~~(12 Hours)~~ (15 Hours)

- **LIB 5000 - Foundations of Library Science (3)**
- **LIB 5030 - Organization of Information (3)**
- **RES 5000 - Research Methods (3)**
- LIB 5520 – Capstone (3)
- Choice of technology elective (3 Hours)

Concentration Requirements ~~(24 Hours)~~ (21 Hours)

Required Courses (12 Hours)

- **LIB 5020 - Information Sources and Services (3)**
- **LIB 5340 - Leadership in Information Organizations (3)**
- Choice of two 3-hour Specialty Area courses (determined with advisor) (6 Hours)

Electives ~~(12 Hours)~~. (9 Hours)

~~Four~~ Three 3-hour program (or program approved) electives selected in consultation with advisor ~~(12 Hours)~~ (9 Hours)

Other Requirements for the MLS

Thesis: Not required
Proficiency: Not required
Candidacy: Required; see the program director for specific timeline and requirements for admission to candidacy
Comprehensive: Required Portfolio
Product of Learning: Not required

G_COE_MCL_2024_7

ADD a Dual Master's degree between Media, Technology, and Learning Design (MTL) - Instructional Technology K-12 (MA_400C_1) and Library Sciences (MLS) - Library Science, School Libraries (MLS_465B_1)

Proposed Bulletin copy

2025-2026 Graduate Bulletin

Appalachian State University

Library Science, School Libraries ,MLS and Media, Technology and Learning Design - Instructional Technology K-12 Facilitation Concentration, MA

Program Codes: MLS_465B_1 and MA_400C_1

CIP Codes: 25.0101 and 13.0501

Program of Study for the Dual Master of Library Science and Master of Arts in Media, Technology and Learning Design

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Admission Requirements: Baccalaureate degree from an accredited college or university; **complete application to the Graduate School**.

To be considered for admission, applicants must meet the **criteria for admission to the Graduate School**. Meeting this condition does not guarantee admission.

Note: Completing this program entitles students who hold NC "A" licensure and present passing scores on the specialty area PRAXIS/NTE to apply for 076 Media Coordinator Licensure from the North Carolina Department of Public Instruction. Students who do not hold a valid North Carolina teaching license will be required to take additional coursework and internship hours in order to seek 076 licensure. Completing this program also allows students to apply for Instructional Technology Specialist (077) licensure from the North Carolina Department of Public Instruction.

Minimum GPA to Qualify for Regular Admission: 2.75

Location: Online

Course Requirements for the Dual Master of Library Science and Master of Arts in Media, Technology and Learning Design

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Total Required (Minimum 54 Hours)

Library Science Required Courses (18 Hours)

- **LIB 5000 – Foundations of Library Science (3)**
- **LIB 5010 - Collection Development and Management (3)**
- **LIB 5030 - Organization of Information (3)**
- **LIB 5040 – Strategic Administration of School Library Resources and Services (3)**
- **LIB 5070 - Integrating Literature and Media into Instruction (3)**
- **LIB Elective (3)**

Media, Technology and Learning Design Required Courses (18 Hours)

- **MTL 5240 - Designing Digital Learning (3)**
- **MTL 5310 - New Media and Emerging Literacies (3)**
- **MTL 5330 - Social Media, Network Communications, and Digital Culture (3)**
- **MTL 5350 - Societal & Legal Issues in Digital Learning (3)**
- **MTL 5450 - Accessibility, Equity, and Inclusion in Media and Technology (3)**
- **MTL 5550 - Technology, Leadership, and Change (3)**

Shared Required Courses (18 Hours)

- **RES 5000 - Research Methods (3)**
- **LIB 5080 – Collaborative Media Program Planning and Evaluation (3)**
- **LIB 5195 – Critical Issues in Literature and Media (3)**
- **LIB 5520 – Capstone (3 Hours)**

Select One of the following TWO courses in consultation with and Advisor. Must be completed in a school media center under supervision of a licensed media coordinator:

- **LIB 5900 – Internship/Practicum (1-6) (3 Hours)**

OR

- **LIB 5910 – Applications of Librarianship Standards (1-6) (3 Hours)**
- **MTL 5440 – Exploring Critical Issues and Opportunities in Media and Technologies (3)**

Other Requirements for the Dual Master of Library Science and Master of Arts in Media, Technology and Learning Design

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- **Thesis:** Not required
- **Proficiency:** Not required
- **Candidacy:** Required; see program directors for specific timeline and requirements for admission to candidacy
- **Portfolio: Required**
- **Product of Learning: Required**

G_COE_MCL_2024_10
Add the course, LIB 5320 Special Libraries: Preserving the Record

Proposed Bulletin copy
LIB 5320 Special Libraries: Preserving the Record (3)
When offered: On Demand
Course description: Libraries are not one-size-fits-all information institutions. While public libraries focus on the general population and academic libraries support educational institutions, special libraries are central to specialized areas. Special libraries are created to meet the unique needs of specific industries, organizations, or communities, offering customized collections and services. This course will introduce students to special libraries and the skills needed to manage and preserve the information these libraries provide.

The prerequisites should be: LIB 5000 and LIB 5020 (needs change on syllabus and description)

G_COE_MCL_2024_11
Add the course, LIB 5325 Libraries, Culture, and Society.

Proposed Bulletin copy
LIB 5325 Libraries, Culture, and Society (3)
When offered: On demand
Course description: This course explores major issues in the library and information science profession as they involve society and culture. Specific situations are analyzed that reflect an evolving representation and transformation of knowledge institutions including intellectual freedom, community service, professional ethics, social responsibilities, intellectual property, literacy, historical and international models, the socio-cultural role of libraries and information agencies and professionalism in general.

the prerequisite should Only be LIB 5000 (needs change on syllabus and description)

G_COE_MCL_2024_12
Add the course, LIB 5520 Capstone (3)

Proposed Bulletin copy
LIB 5520 Capstone (3)
When offered: Fall, Spring

This course provides students the opportunity to reflect on their learning throughout the program by exploring how their work reflects the program's learning objectives. Students will engage in the development of a portfolio that they will be able to use in their professional careers.

Grade: Satisfactory/Unsatisfactory

G_COE_MCL_2024_13
Add a graduate certificate in Public Library, GCERT_725A.

G_COE_MCL_2024_16
Change the description of the course, LIB 5010 Collection Development and Management.

Current Bulletin copy
See Current Bulletin: LIB 5010 - Collection Development and Management (3)
When Offered: On Demand
This course outlines the concepts, process, practices, policies, and issues related to developing and managing collections to meet user needs in school and public libraries. Intellectual freedom and the basics of copyright law and fair use are also examined.

Proposed Bulletin copy
LIB 5010 Collection Development and Management (3)
When offered: Fall

This course outlines the concepts, process, practices, policies, and issues related to developing and managing collections to meet user needs in libraries. Intellectual freedom and the basics of copyright law and fair use are also examined.

GU_COE_LTC_2024_2
Change CI 3910: Middle Level Education course number to CI 4550: Successful Schools for Young Adolescents
Dual list with CI 5550, Successful Schools for Young Adolescents
Change course offering to On Demand

GU_COE_LTC_2024_3
Change course number of CI 3920 Teaching Young Adolescents, to CI 4750 Teaching Diverse Young Adolescents
Dual-list CI 4750 with CI 5750 Teaching Diverse Young Adolescents
Change offering to On Demand

G_FAA_STBE_2024_1 CHANGE the program of study requirements for the dual degree program MS-599I and MS_113B: Technology - Renewable Energy Technology Concentration, MS and Engineering Physics - Systems and Laboratory Automation Concentration

CURRENT & PROPOSED CHANGES

Program Codes: MS_599I and MS_113B
CIP Codes: 15.0612 and 40.0801

Program of Study for the Master of Science in Technology and the Master of Science in Engineering Physics

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Admission Requirements: Baccalaureate degree in physics or any science or related area such as mathematics, computer science, or engineering from an accredited college or university; **complete application to the Graduate School**; official general GRE exam scores for applicants with a cumulative undergraduate GPA below 2.9; statement of career goals.

To be considered for admission, applicants must meet the **criteria for admission to the Graduate School**. Meeting this condition does not guarantee admission.

Minimum GPA to Qualify for Regular Admission: 2.9 ***OR*** 2.5 to 2.899 with GRE scores of at least the 25th percentile.

Standardized Exam Waiver Eligibility: The standardized exam (GRE) requirement may be waived for applicants with a cumulative undergraduate GPA of 2.9 or higher.

Location: Boone Campus

Course Requirements for the Dual Master of Science in Technology/Renewable Energy Technology Concentration and the Master of Science in Engineering Physics/Systems and Laboratory Automation Concentration

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Total Required (Minimum 54-57 Hours)

MS in Technology Required Courses (18-21 Hours)

- **TEC 5139 - Technology and Culture (3)**

Choose One (3-6 Hours)

- **TEC 5809 - Research and Development in Technical Areas (3)**
- **TEC 5999 - Thesis (3-6)** (6 Hours)

Concentration Courses (12 Hours)

12 hours of Appropriate Technology concentration approved courses chosen from the following courses

- **TEC 5260 - Renewable Energy Engineering (3)**
- **TEC 5270 - Advanced Computer Modeling of Renewable Energy (3)**
- **TEC 5509 - Technical Competency Development (3)**
- TEC 5515 – PV Operations and Maintenance (3) [DL]
- TEC 5520 – PV Business (3) [DL]
- **TEC 5604 - Sustainable Transportation (3)**
- **TEC 5605 - Sustainable Resource Management (3)**
- **TEC 5606 - Sustainable Water and Wastewater Technology (3)**
- **TEC 5607 - Wind and Hydro Power Technology (3) [DL]**
- **TEC 5608 - Photovoltaic System Design and Construction (3) [DL]**
- TEC 5613 – EV Design (3) [DL]
- **TEC 5615 - Renewable Energy Project Development (3) [DL]**
- **TEC 5618 - Sustainable Building Design and Construction (3) [DL]**
- **TEC 5628 - Solar Thermal Energy Technology (3) [DL]**
- TEC 5633 – Battery-Based PV Systems (3) [DL]
- **TEC 5700 - Bioenergy Technology (3) [DL]**
- **TEC 5900 - Internship (3-6)**

MS in Engineering Physics Required Courses (18 Hours)

- **PHY 5330 - Digital Electronics (4) [DL]**
- **PHY 5400 - Professional Skills (1)**
- **PHY 5730 - Analog Systems (4) [DL]**
- **PHY 5740 - Sensors and Transducers (4)**

Electives (5 Hours)

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5 hours of graduate electives with approval from Engineering Physics graduate program director

Shared Courses (18 Hours)

- **PHY 5011 - Applied Physics Colloquium (0)** (All students must enroll at least one time.)
- **PHY 5405 - Graduate Seminar (1)**
- **PHY 5450 - Programmable Logic Controllers (4)**
- **PHY 5735 - Microcontrollers (4)**
- **TEC 5000 - Research in Technology (3)**
- **TEC 5670 - Seminar (0)** (All students must enroll at least two times.)
- **TEC 5900 - Internship (3-6)** (3 Hours)

Choose One (3 Hours)

- **TEC 5129 - Project Management (3)**
- **TEC 5149 - Entrepreneurship in Technology and Science (3)**

Other Requirements for the Dual MS in Technology and MS in Engineering Physics

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- **Thesis:** Optional. For Engineering Physics, physics thesis hours would count as an approved elective
- **Proficiency:** Nonet required
- **Candidacy:** Required for thesis option; awarded upon approval of thesis committee and prospectus
- **Comprehensive:** Required in both programs; see the program directors for information on content and timing
- **Product of Learning:** None required

GU_FAA_STBE_2024_14 In the undergraduate bulletin, change the course description and offering of TEC 4515: PV Operations and Maintenance. In the graduate bulletin, change the course description and offering of TEC 5515: PV Operations and Maintenance.

CURRENT:

TEC 4515 - PV Operations and Maintenance (3)
When Offered: Spring
This course will introduce students to concepts, tools, techniques, and materials needed to perform operations and maintenance (O&M) including inspections, commissioning, performance verification, and troubleshooting for grid-direct PV systems. The course emphasizes how to safely and effectively utilize essential O&M tools, such as I-V curve tracing, thermal imaging, and electroluminescence imaging. Data analysis technique will be introduced. PV reliability issues including system level, module level, and cell level will also be studied. Contemporary trends, products, economics, and policies will be emphasized. Lecture two hours, laboratory two hours.
Prerequisite: TEC 3609, TEC 3610.
[Dual listed with TEC 5515]. Dual-listed courses require senior standing.

TEC 5515 - PV Operations and Maintenance (3) [DL]
When Offered: Spring
This course will introduce students to concepts, tools, techniques, and materials needed to perform operations and maintenance (O&M) including inspections, commissioning, performance verification, and troubleshooting for grid-direct PV systems. Students will learn how to safely and effectively utilize essential O&M tools, such as I-V curve tracing, thermal imaging, and electroluminescence imaging. Data analysis techniques will be introduced. PV reliability issues including system level, module level, and cell level will also be studied. Contemporary trends, products, economics, and policies will be emphasized. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4515.]

PROPOSED:

TEC 4515 - PV Operations and Maintenance (3)
When Offered: On demand
This course will introduce students to concepts, tools, techniques, and materials needed to perform operations and maintenance (O&M) on utility-scale PV systems, including inspections, commissioning, performance verification, and troubleshooting to maximize resilience. The course emphasizes how to safely and effectively utilize essential O&M techniques, such as I-V curve tracing, thermal imaging, and electroluminescence imaging. Industry-standard data analysis techniques will be used to quantify contributions to decarbonization. PV reliability issues at the system, module, and cell level will be studied. Contemporary trends, products, economics, and policies will be emphasized. Lecture two hours, laboratory two hours.
Prerequisite: TEC 3609 and TEC 3610.
[Dual listed with TEC 5515]. Dual-listed courses require senior standing.

TEC 5515 - PV Operations and Maintenance (3) [DL]
When Offered: On demand
This course will introduce students to concepts, tools, techniques, and materials needed to perform operations and maintenance (O&M) on utility-scale PV systems, including inspections, commissioning, performance verification, and troubleshooting to maximize resilience. The course emphasizes how to safely and effectively utilize essential O&M techniques, such as I-V curve tracing, thermal imaging, and electroluminescence imaging. Industry-standard data analysis techniques will be used to quantify contributions to decarbonization. PV reliability issues at the system, module, and cell level will be studied. Contemporary trends, products, economics, and policies will be emphasized. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual listed with TEC 4515].

GU_FAA_STBE_2024_15

In the undergraduate bulletin, change the course description of TEC 4520: PV Business.
In the graduate bulletin, change the course description of TEC 5520: PV Business.

CURRENT:

TEC 4520 - PV Business (3)
When Offered: Fall, Spring
This course focuses on important technical considerations for PV sales professionals, including financial analysis and system financing. Through insightful presentations and instruction from experts working in the field, the course covers technical details needed to assess potential residential PV sites and to create and present accurate sales proposals. Concepts discussed in detail include: site safety, customer qualification, solar site analysis, creating conceptual design proposals, performance modeling, system costing, incentives and rebates, financial-benefit analyses, financing options, and the non-financial benefits of photovoltaic systems. This course is geared toward students who are interested in or who already are working in the business or sales side of the residential/commercial PV industry and are looking to improve their knowledge and sales techniques or are working towards the NABCEP PV Technical Sales Certification. Lecture two hours, laboratory two hours.
Prerequisite: TEC 3609 and TEC 3610.

TEC 5520 - PV Business (3) [DL]
When Offered: Fall, Spring
This course focuses on important technical considerations for PV sales professionals, including financial analysis and system financing. Through insightful presentations and instruction from experts working in the field, the course covers technical details needed to assess potential residential PV sites and to create and present accurate sales proposals. Concepts discussed in detail include: site safety, customer qualification, solar site analysis, creating conceptual design proposals, performance modeling, system costing, incentives and rebates, financial-benefit analyses, financing options, and the non-financial benefits of photovoltaic systems. This course is geared toward students who are interested in or who already are working in the business or sales side of the residential/commercial PV industry and are looking to improve their knowledge and sales techniques or are working towards the NABCEP PV Technical Sales Certification. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4520.]

PROPOSED:

TEC 5520 - PV Business (3) [DL]
When Offered: Fall, Spring
This course focuses on important technical considerations for PV sales professionals, including financial analysis and system financing. Through insightful presentations and instruction from experts working in the field, the course covers technical details needed to assess potential residential PV sites and to create and present accurate sales proposals. Concepts discussed in detail include: site safety, customer qualification, solar site analysis, creating conceptual design proposals, performance modeling, system costing, incentives and rebates, financial-benefit analyses, financing options, and the non-financial benefits of photovoltaic systems. This course is geared toward students who are interested in or who already are working in the business or sales side of the residential/commercial PV industry and are looking to improve their knowledge and sales techniques or are working towards the NABCEP PV Technical Sales Certification. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4520.]

TEC 5520 - PV Business (3) [DL]
When Offered: Fall, Spring
This course focuses on important technical considerations for PV sales professionals, including financial analysis and system financing. Through presentations and instruction, experts working in the field will offer insight into the technical details needed to assess potential residential PV sites and to create and present accurate sales proposals. Concepts discussed in detail include site safety, customer qualification, solar site analysis, creating conceptual design proposals, performance modeling, system costing, incentives and rebates, financial-benefit analyses, financing options, and the non-financial benefits of photovoltaic systems such as energy resilience and decarbonization. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual listed with TEC 4520].

GU_FAA_STBE_2024_16

In the undergraduate bulletin, change the course description of TEC 4523: Energy Policy.
In the graduate bulletin, change the course description of TEC 5523: Energy Policy.

CURRENT:

TEC 4523 - Energy Policy (3)
When Offered: On Demand
Energy policy plays an increasingly important role in shaping the way societies transition to clean energy. This course will provide an introductory yet in-depth overview of the where, how, and why energy policies are made. Implications of energy policy specific to renewable energy and energy efficiency investments and developments will be examined. Additionally, this course will review key state and federal energy policies and policy models, as well as explore energy markets, regulatory structures, and utility business models.
[Dual-listed with TEC 5523.] Dual-listed courses require senior standing; juniors may enroll with permission of the department.

TEC 5523 - Energy Policy (3) [DL]
When Offered: On Demand.
Energy policy plays an increasingly important role in shaping the way societies transition to clean energy. This course will provide an introductory yet in-depth overview of the where, how, and why energy policies are made. Implications of energy policy specific to renewable energy and energy efficiency investments and developments will be examined. Additionally, this course will review key state and federal energy policies and policy models, as well as explore energy markets, regulatory structures, and utility business models.
[Dual-listed with TEC 4523.]

PROPOSED:

TEC 4523 - Energy Policy (3)
When Offered: On Demand
This course provides an overview of the where, how, and why energy policies are made and how they impact the transition to clean energy. Implications of energy policy specific to renewable energy and energy efficiency investments will be examined. Additionally, this course will review key state and federal energy policies and policy models, as well as explore energy markets, regulatory structures, and utility business models.
[Dual-listed with TEC 5523.] Dual-listed courses require senior standing.

TEC 5523 - Energy Policy (3) [DL]
When Offered: On Demand.
This course provides an overview of the where, how, and why energy policies are made and how they impact the transition to clean energy. Implications of energy policy specific to renewable energy and energy efficiency investments will be examined. Additionally, this course will review key state and federal energy policies and policy models, as well as explore energy markets, regulatory structures, and utility business models.
[Dual-listed with TEC 4523.]

GU_FAA_STBE_2024_17

In the undergraduate bulletin, change the course description andprerequisites of TEC 4607: Wind and Hydro Power Technology.
In the graduate bulletin, change the course description of TEC 5607: Wind and Hydro Power Technology.

CURRENT:

TEC 4607 - Wind and Hydro Power Technology (3)
When Offered: Fall; Spring
This course will introduce students to the basic concepts, tools, techniques and materials needed to design and construct systems that convert wind and hydro resources into electricity. Students will study how to measure these renewable resources and to estimate the power that could be produced from them. They will also have the opportunity to learn how to design and construct complete wind and hydroelectric systems and become familiar with many contemporary products used in renewable electricity systems. The course will include classroom and "hands-on" design, construction and possibly some field trip experiences outside of class. Lecture two hours, laboratory two hours.
Prerequisites: BSC 1210, BSC 1410, and TEC 3638.
[Dual-listed with TEC 5607.] Dual-listed courses require senior standing.

TEC 5607 - Wind and Hydro Power Technology (3) [DL]
When Offered: Fall, Spring
This course will introduce students to the basic concepts, tools, techniques and materials needed to design and construct systems that convert wind and hydro resources into electricity. Students will have the opportunity to learn how to measure these renewable resources and to estimate the power that could be produced from them. They will also have the opportunity to learn how to design and construct complete renewable electricity systems and become familiar with many contemporary products used in renewable electricity systems. The course will include classroom and "hands-on" design, construction and possibly some field trip experiences outside of class. Content mastery and applied practice at the graduate level is expected. Lecture two hours, laboratory two hours. [Dual-listed with TEC 4607.]

PROPOSED:

TEC 4607 - Wind and Hydro Power Technology (3)
When Offered: Fall, Spring
This course will introduce students to the basic concepts, tools, and techniques needed to design and construct systems that convert wind and hydro resources into electricity. Students will study how to measure these renewable resources, estimate the power that could be produced from them and quantify the impact on climate change mitigation. Students will also design and construct complete renewable electricity systems and become familiar with many contemporary products used in wind and hydro generation systems. The course may include classroom and "hands-on" design and construction activities and field trip experiences. Lecture two hours, laboratory two hours.
Prerequisites: BSC 1210, BSC 1410, TEC 3610, and TEC 3638.
[Dual-listed with TEC 5607.] Dual-listed courses require senior standing.

TEC 5607 - Wind and Hydro Power Technology (3) [DL]
When Offered: Fall, Spring
This course will introduce students to the basic concepts, tools, and techniques needed to design and construct systems that convert wind and hydro resources into electricity. Students will study how to measure these renewable resources, estimate the power that could be produced from them and quantify the impact on climate change mitigation. Students will also design and construct complete renewable electricity systems and become familiar with many contemporary products used in wind and hydro generation systems. The course may include classroom and "hands-on" design and construction activities and field trip experiences. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4607.]

GU_FAA_STBE_2024_18

In the undergraduate bulletin, change the course description and offering of TEC 4613: EV Design.
In the graduate bulletin, change the course description and offering of TEC 5613: EV Design.

CURRENT:

TEC 4613 - EV Design (3)
When Offered: Fall; Spring.
This course focuses on electric vehicle design and the function of all the systems within the vehicle. Topics will include current and historical electric vehicle design, electronics, electric vehicle propulsion technology, and electric vehicle safety. The class will use project based experiences as well as lecture style teaching. Engineering problem solving methods will be used to define a problem in a transportation system, develop a solution to the problem and fabricate a final product. Lecture two hours, laboratory two hours.
Prerequisites: TEC 2024 and TEC 3604.
[Dual-listed with TEC 5613.] Dual-listed courses require senior standing.

TEC 5613 - EV Design (3) [DL]
When Offered: Fall, Spring
This course focuses on electric vehicle design and the function of all the systems within the vehicle. Topics will include current and historical electric vehicle design, electronics, electric vehicle propulsion technology, and electric vehicle safety. The class will use project based experiences as well as lecture style teaching. Engineering problem solving methods will be used to define a problem in a transportation system, develop a solution to the problem and fabricate a final product. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4613.]

PROPOSED:

TEC 4613 - EV Design (3)
When Offered: Fall
This course focuses on electric vehicle design and the function of all the systems within the vehicle. Topics include current and historical electric vehicle design, electronics, electric vehicle propulsion technology, electric vehicle safety, and the impact of electric vehicle adoption on air pollution and carbon emissions. The class will use project-based experiences as well as lecture style teaching. Engineering problem solving methods will be used to define a problem in a transportation system, develop a solution to the problem and fabricate a final product. Lecture two hours, laboratory two hours.
Prerequisites: TEC 2024 and TEC 3604.
[Dual-listed with TEC 5613.] Dual-listed courses require senior standing.

TEC 5613 - EV Design (3) [DL]
When Offered: Fall
This course focuses on electric vehicle design and the function of all the systems within the vehicle. Topics include current and historical electric vehicle design, electronics, electric vehicle propulsion technology, electric vehicle safety, and the impact of electric vehicle adoption on air pollution and carbon emissions. The class will use project-based experiences as well as lecture style teaching. Engineering problem solving methods will be used to define a problem in a transportation system, develop a solution to the problem and fabricate a final product. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4613.]

GU_FAA_STBE_2024_19

In the undergraduate bulletin, change the course description and prerequisites of TEC 4615: Renewable Energy Project Development.

In the undergraduate bulletin, change the course description of TEC 5615: Renewable Energy Project Development.

CURRENT:

TEC 4615 - Renewable Energy Project Development (3)
When Offered: On Demand
This course will explore the policy, market, and economic context for the development of energy projects with a focus on renewable energy, energy efficiency, and emerging technology trends. Specific topics may include regulatory oversight roles, energy and related environmental attribute markets, power purchase agreements, tax-based and other incentives, and implications of emerging technologies and business models on power markets. Emphasis will be placed on students achieving a fundamental understanding of the regulatory and market context for energy projects and the practical application of this knowledge.
Prerequisites: TEC 3610 and TEC 3638.
[Dual listed with TEC 5615.] Dual listed courses require senior standing.

TEC 5615 - Renewable Energy Project Development (3) [DL]
When Offered: On Demand
This course will explore the policy, market, and economic context for the development of energy projects with a focus on renewable energy, energy efficiency, and emerging technology trends. Specific topics may include regulatory oversight roles, energy and related environmental attribute markets, power purchase agreements, tax-based and other incentives, and implications of emerging technologies and business models on power markets. Emphasis will be placed on students achieving a fundamental understanding of the regulatory and market context for energy projects and the practical application of this knowledge. Content mastery and analytical problem solving at the graduate level is expected.
[Dual listed with TEC 4615.]

PROPOSED:

TEC 4615 - Renewable Energy Project Development (3)
When Offered: On Demand
This course will explore the policy, market, and economic context for the development of energy projects with a focus on renewable energy, energy efficiency, and emerging technologies. Specific topics may include regulatory oversight roles, energy and related environmental attribute markets, power purchase agreements, tax-based and other incentives, and implications of emerging technologies and business models on power markets. Emphasis will be placed on students achieving a fundamental understanding of the regulatory framework and financial modeling of renewable energy projects to present to a potential investor. In this project-based learning class, students identify a greenfield site and develop it into a potential renewable energy project. Lecture two hours, laboratory two hours.
Prerequisites: TEC 3638.
[Dual listed with TEC 5615.] Dual listed courses require senior standing.

TEC 5615 - Renewable Energy Project Development (3) [DL]
When Offered: On Demand
This course will explore the policy, market, and economic context for the development of energy projects with a focus on renewable energy, energy efficiency, and emerging technologies. Specific topics may include regulatory oversight roles, energy and related environmental attribute markets, power purchase agreements, tax-based and other incentives, and implications of emerging technologies and business models on power markets. Emphasis will be placed on students achieving a fundamental understanding of the regulatory framework and financial modeling of renewable energy projects to present to a potential investor. In this project-based learning class, students identify a greenfield site and develop it into a potential renewable energy project. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual listed with TEC 4615.]

GU_FAA_STBE_2024_21

In the undergraduate bulletin, change the course description and offering of TEC 4628: Solar Thermal Energy Technology

In the graduate bulletin, change the course description and offering of TEC 5628: Solar Thermal Energy Technology

CURRENT:

TEC 4628 - Solar Thermal Energy Technology (3)
When Offered: Fall; Spring
This course will focus on concepts, tools, materials, and techniques needed to convert solar energy into useful heat in a variety of applications. Specific technologies to be studied may include passive solar design, solar greenhouses, solar water heating and hydronic systems, PV-direct water heating, thermal energy storage, and concentrating solar. Cost comparisons will be included in assessments of these technologies. The course will include traditional classroom as well as design, modeling, construction and testing activities. Lecture two hours, laboratory two hours.
Prerequisites: TEC 3609 and TEC 3638.
[Dual-listed with TEC 5628.] Dual listed courses require senior standing.

TEC 5628 - Solar Thermal Energy Technology (3) [DL]
When Offered: Fall, Spring
This course will focus on concepts, tools, materials, and techniques needed to convert solar energy into useful heat in a variety of applications. Specific technologies to be studied may include passive solar design, solar greenhouses, solar water heating and hydronic systems, PV-direct water heating, thermal energy storage, and concentrating solar. Economic evaluation will be included in assessments of these technologies. The course will include traditional classroom as well as design, modeling, construction and testing activities. Content mastery and applied practice at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4628.]

PROPOSED:

TEC 4628 - Solar Thermal Energy Technology (3)
When Offered: On demand
This course will focus on concepts, tools, materials, and techniques needed to convert solar energy into a zero-carbon heat source. Specific technologies to be studied may include passive solar design, solar greenhouses, solar water heating and hydronic systems, PV-direct water heating, thermal energy storage, and concentrating solar. Cost comparisons will be included in assessments of these technologies. The course will include traditional classroom as well as design, modeling, construction and testing activities. Lecture two hours, laboratory two hours.
Prerequisites: TEC 3609 and TEC 3638.
[Dual-listed with TEC 5628.] Dual listed courses require senior standing.

TEC 5628 - Solar Thermal Energy Technology (3) [DL]
When Offered: On demand
This course will focus on concepts, tools, materials, and techniques needed to convert solar energy into a zero-carbon heat source. Specific technologies to be studied may include passive solar design, solar greenhouses, solar water heating and hydronic systems, PV-direct water heating, thermal energy storage, and concentrating solar. Cost comparisons will be included in assessments of these technologies. The course will include traditional classroom as well as design, modeling, construction and testing activities. Content mastery and applied practice at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4628.]

GU_FAA_STBE_2024_22

In the undergraduate bulletin, change the course description of TEC 4633: Battery-Based PV Systems.
In the graduate bulletin, change the course description of TEC 5633: Battery-Based PV Systems.

CURRENT:

TEC 4633 - Battery-Based PV Systems (3)
When Offered: Fall; Spring.
Battery-based photovoltaic (PV) systems are used in a wide variety of applications including off-grid homes, small standalone lighting systems, back-up power systems at remote telecommunications sites, village micro-grid systems, and PV powered RVs and boats. This course focuses on components utilized in battery-based systems, including PV panels/arrays, batteries, charge controllers, generators, inverters, and inverter/chargers; and examines how they are integrated and configured for different applications. This design-based course focuses on detailed system sizing calculations, equipment selection criteria, and strategies for all types of battery-based PV systems. Lecture two hours, laboratory two hours.
Prerequisite: TEC 3609.
[Dual-listed with TEC 5633.] Dual-listed courses require senior standing.

TEC 5633 - Battery-Based PV Systems (3) [DL]
When Offered: Fall, Spring
Battery-based photovoltaic (PV) systems are used in a wide variety of applications including off-grid homes, small stand-alone lighting systems, back-up power systems at remote telecommunications sites, village micro-grid systems, and PV-powered RVs and boats. This course focuses on components utilized in battery-based systems, including PV panels/arrays, batteries, charge controllers, generators, inverters, and inverter/chargers; and examines how they are integrated and configured for different applications. This design-based course focuses on detailed system sizing calculations, equipment selection criteria, and strategies for all types of battery-based PV systems. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4633.]

PROPOSED:

TEC 4633 - Battery-Based PV Systems (3)
When Offered: Fall; Spring.
This course focuses on the understanding of components used in residential-scale battery-based systems, including PV panels/arrays, batteries, charge controllers, generators, inverters, and inverter/chargers; and examines how they are integrated and configured for different applications. This course focuses on detailed system design and sizing calculations, equipment selection criteria, and strategies for a range of battery-based PV systems. Lecture two hours, laboratory two hours.
Prerequisite: TEC 3609.
[Dual-listed with TEC 5633.] Dual-listed courses require senior standing.

TEC 5633 - Battery-Based PV Systems (3) [DL]
When Offered: Fall, Spring
This course focuses on the understanding of components used in residential-scale battery-based systems, including PV panels/arrays, batteries, charge controllers, generators, inverters, and inverter/chargers; and examines how they are integrated and configured for different applications. This course focuses on detailed system design and sizing calculations, equipment selection criteria, and strategies for a range of battery-based PV systems. Content mastery and analytical problem solving at the graduate level is expected. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4633.]

GU_FAA_STBE_2024_24

In the undergraduate bulletin, change the number and course description of TEC 4700: Bioenergy Technology.
In the undergraduate bulletin, change the number and course description of TEC 5700: Bioenergy Technology.

CURRENT:

TEC 4700 - Bioenergy Technology (3)
When Offered: Fall; Spring
An examination of evolving bioenergy conversion technologies (anaerobic digestion, pyrolysis) which are being developed to displace non-renewable fuels. This course will focus on the concepts, tools, techniques, and materials needed to assess, design, and construct bioenergy technology systems. Coursework will include multimedia presentations, lectures, discussions, films, field trips, homework, guest-speakers, and laboratory activities. Topics include: biogas and digester design, waste to energy, chemistry of biomass, C & N cycles, bioenergy feedstocks, pyrolysis products- biochar, py-oil, and syngas, closed-loop designs, energy balance, life cycle assessment, the bioenergy and agricultural nexus, and eco-industrial models. Lecture two hours, laboratory two hours.
Prerequisite: TEC 2029, TEC 2601, TEC 3605, and TEC 3638.
[Dual-listed with TEC 5700.] Dual-listed courses require senior standing.

TEC 5700 - Bioenergy Technology (3) [DL]
When Offered: Fall, Spring
An examination of evolving bioenergy conversion technologies (anaerobic digestion, pyrolysis) which are being developed to displace non-renewable fuels. This course will focus on the concepts, tools, techniques, and materials needed to assess, design, and construct bioenergy technology systems. Coursework will include multimedia presentations, lectures, discussions, films, field trips, homework, guest-speakers, and laboratory activities. Topics include: biogas and digester design, waste to energy, chemistry of biomass, C & N cycles, bioenergy feedstocks, pyrolysis products- biochar, py-oil, and syngas, closed-loop designs, energy balance, life cycle assessment, the bioenergy and agricultural nexus, and eco-industrial models. Content mastery and applied practice at the graduate level is expected.
Lecture two hours, laboratory two hours. [Dual-listed with TEC 4700.]

PROPOSED:

TEC 4625 - Bioenergy Technology (3)
When Offered: Fall; Spring.
This course will focus on the concepts, tools, techniques, and materials needed to assess, design, and construct bioenergy technology systems. Topics include biogas and digester design, waste to energy, chemistry of biomass, feedstocks, liquid biofuels, closed-loop designs, energy and carbon balance, life cycle assessment, the bioenergy and agricultural nexus, and eco-industrial models. Lecture two hours, laboratory two hours.
Prerequisite: TEC 2029, TEC 2601, TEC 3605, and TEC 3638.
[Dual-listed with TEC 5625.] Dual-listed courses require senior standing.

Proposed:
TEC 5625 - Bioenergy Technology (3) [DL]
When Offered: Fall, Spring
This course will focus on the concepts, tools, techniques, and materials needed to assess, design, and construct bioenergy technology systems. Topics include biogas and digester design, waste to energy, chemistry of biomass, feedstocks, liquid biofuels, closed-loop designs, energy and carbon balance, life cycle assessment, the bioenergy and agricultural nexus, and eco-industrial models. Lecture two hours, laboratory two hours.
[Dual-listed with TEC 4625.]

GU_FAA_STBE_2024_27

In the undergraduate bulletin, add the course TEC 4620: Electric Grid.
In the graduate bulletin, add the course TEC 5620: Electric Grid.

Proposed:

TEC 4620 – Electric Grid (3)

When Offered: On Demand

This course is designed to provide students with a comprehensive understanding of the fundamentals of the electrical grid. Topics include but are not limited to system terminology and concepts, grid anatomy, power generation, renewable power generation systems, power transmission systems, power substations, power distribution systems, power consumption, power system protection, interconnected power systems, system control centers and telecommunications, personal protection (safety), grid-integration of distributed and renewable energy systems, smart grids vs. traditional grids, interconnection of grids. This course also includes a site tour of the New River Light and Power (NRLP) substation and facilities.

Prerequisites: PHY 1123, PHY 1124, and TEC 2601.

[Dual listed with TEC 5620.] Dual listed courses require senior standing.

Proposed:

TEC 5620 – Electric Grid (3) [DL]

When Offered: On Demand

This course is designed to provide students with a comprehensive understanding of the fundamentals of the electrical grid. Topics include but are not limited to system terminology and concepts, grid anatomy, power generation, renewable power generation systems, power transmission systems, power substations, power distribution systems, power consumption, power system protection, interconnected power systems, system control centers and telecommunications, personal protection (safety), grid-integration of distributed and renewable energy systems, smart grids vs. traditional grids, interconnection of grids. This course also includes a site tour of the New River Light and Power (NRLP) substation and facilities.

[Dual listed with TEC 4620.]

GU_FAA_STBE_2024_30

In the undergraduate bulletin, add the course TEC 4640 Utility-Scale PV Fundamentals.
In the graduate bulletin, add the course TEC 5640 Utility-Scale PV Fundamentals.

Proposed:

TEC 4640 – Utility-Scale PV Fundamentals (3)

When Offered: On Demand

This course introduces students to the development, design, permitting, construction and commissioning of utility-scale PV power plants. Partnering with experts from the field, students learn firsthand about the key organizational partners involved and major processes required to convert land into a fully operational, grid-interactive power plant. Topics include utility solar industry market dynamics, electrical fundamentals of large-scale PV, comprehension of electrical, civil, and mechanical drawings, quality assurance best practices, and operation and maintenance strategies. Lecture two hours, laboratory two hours.

Prerequisites: TEC 3609.

[Dual listed with TEC 5640.] Dual listed courses require senior standing.

Proposed:

TEC 5640 – Utility-Scale PV Fundamentals (3) [DL]

When Offered: On Demand

This course introduces students to the development, design, permitting, construction and commissioning of utility-scale PV power plants. Partnering with experts from the field, students learn firsthand about the key organizational partners involved and major processes required to convert land into a fully operational, grid-interactive power plant. Topics include utility solar industry market dynamics, electrical fundamentals of large-scale PV, comprehension of electrical, civil, and mechanical drawings, quality assurance best practices, and operation and maintenance strategies. Lecture two hours, laboratory two hours.

[Dual listed with TEC 4640.]

GU_FAA_STBE_2024_31 Change BSC 4659 - Integrated Project Design and Delivery Credit numbers from 4 credits to 3 credits; Change BSC 5659 - Integrated Project Design and Delivery (4) [DL] Credit numbers from 4 credits to 3 credits; Change course number from BSC 4659 to BSC 4650
Change course number from BSC 5659 to BSC 5650

Current Bulletin copy:

BSC 4659 - Integrated Project Design and Delivery (4)
When Offered: Fall; Spring
This is an advanced level course exploring the broad field of how architectural building design, engineering, and construction management interface with one another. It investigates Integrated Project Delivery methods using Computer-aided Drafting and Design (CADD), Building Information Modeling (BIM) and physical model building. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling. Lecture two hours, laboratory two hours.
Prerequisites: BSC 3630. Prerequisite or Corequisite: BSC 4640, BSC 4900 and BSC 4901. [Dual-listed with BSC 5659.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling.

BSC 5659 - Integrated Project Design and Delivery (4) [DL]
When Offered: Fall, Spring
This is an advanced level course exploring the broad field of how architectural building design, engineering, and construction management interface with one another. It investigates Integrated Project Delivery methods using Computer-aided Drafting and Design (CADD), Building Information Modeling (BIM) and physical model building. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling.
Lecture two hours, laboratory two hours. [Dual-listed with BSC 4659.]

Proposed Bulletin copy

BSC 4650 - Integrated Project Design and Delivery (3)
When Offered: Fall; Spring
This is an advanced level course exploring the broad field of how architectural building design, engineering, and construction management interface with one another. It investigates Integrated Project Delivery methods using Computer-aided Drafting and Design (CADD), Building Information Modeling (BIM) and physical model building. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling. Lecture two hours, laboratory two hours.
Prerequisites: BSC 3630. Prerequisite or Corequisite: BSC 4640, BSC 4900 and BSC 4901. [Dual-listed with BSC 5650.] Dual-listed courses require senior standing; juniors may enroll with permission of the department. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling.

BSC 5650 - Integrated Project Design and Delivery (3) [DL]
When Offered: Fall, Spring
This is an advanced level course exploring the broad field of how architectural building design, engineering, and construction management interface with one another. It investigates Integrated Project Delivery methods using Computer-aided Drafting and Design (CADD), Building Information Modeling (BIM) and physical model building. Required course projects include a full set of construction drawings, cost estimates, project planning, and scheduling.
Lecture two hours, laboratory two hours. [Dual-listed with BSC 4650.]

GU_FAA_STBE_2024_32

Change BSC 4459 - Integrated Energy and Building Systems credit numbers from 4 credits to 3 credits
Change BSC 5459 - Integrated Energy and Building Systems (4) [DL] credit numbers from 4 credits to 3 credits
Change course number from BSC 4459 to BSC 4450
Change course number from BSC 5459 to BSC 5450

Current Bulletin copy

BSC 4459 - Integrated Energy and Building Systems (4)
When Offered: Spring
This course explores systems design and performance quantification for a wide range of residential and commercial building types. Introduces complex energy modeling software as a tool for evaluating these different building systems. Reinforces analysis of passive and active systems. Emphasizes quantitative reasoning and verbal communication. Lecture two hours, laboratory two hours.
Prerequisites: TEC 3612 , BSC 3430, BSC 4900, and BSC 4901.
[Dual-listed with BSC 5459.] Dual listed courses require senior standing; juniors may enroll with permission of the department.

BSC 5459 - Integrated Energy and Building Systems (4) [DL]
When Offered: Spring
This course explores systems design and performance quantification for a wide range of residential and commercial building types. Introduces complex energy modeling software as a tool for evaluating these different building systems. Reinforces analysis of passive and active systems. Emphasizes quantitative reasoning and verbal communication. Lecture two hours, laboratory two hours. [Dual-listed with BSC 4459.]

Proposed Bulletin copy

BSC 4450 - Integrated Energy and Building Systems (3)
When Offered: Spring
This course explores systems design and performance quantification for a wide range of residential and commercial building types. Introduces complex energy modeling software as a tool for evaluating these different building systems. Reinforces analysis of passive and active systems. Emphasizes quantitative reasoning and verbal communication. Lecture two hours, laboratory two hours.
Prerequisites: TEC 3612 , BSC 3430, BSC 4900, and BSC 4901.
[Dual-listed with BSC 5450.] Dual listed courses require senior standing; juniors may enroll with permission of the department.

BSC 5450 - Integrated Energy and Building Systems (3) [DL]
When Offered: Spring
This course explores systems design and performance quantification for a wide range of residential and commercial building types. Introduces complex energy modeling software as a tool for evaluating these different building systems. Reinforces analysis of passive and active systems. Emphasizes quantitative reasoning and verbal communication. Lecture two hours, laboratory two hours. [Dual-listed with BSC 4450.]

G_COB_MBA_2024_5

Add AI components to MBA 5200-Problem Analysis & Quantitative Methods. Update course content. Update Course name to MBA 5200-Applied AI and Quantitative Methods in Business. MBA 5200 is a core class in MBA and MSADA degree programs.

Current Bulletin copy

MBA 5200 - Problem Analysis and Quantitative Methods (3)
When Offered: On Demand
A course designed to provide business students with the quantitative analysis tools required for managerial decision-making. The course covers quantitative concepts such as decision-making under uncertainty, optimization models and applications, and computer simulation. Additionally, the course will cover various statistical methods, including hypothesis testing, analysis of variance, regression analysis, and time series analysis. The emphasis will be on business applications of quantitative methods using computer software and models.
Prerequisite: Admission to the MBA Program, MS in Applied Data Analytics, Business Analytics Certificate Program or permission of the program director.

Proposed Bulletin copy

MBA 5200 - Applied AI and Quantitative Methods in Business (3)
When Offered: On Demand
This course is designed to provide business students with advanced quantitative analysis tools and artificial intelligence (AI) applications essential for managerial decision-making. The course covers quantitative concepts such as decision-making under uncertainty, optimization models, computer simulations, and statistical methods, while also integrating AI-powered techniques like predictive analytics and machine learning. Emphasis will be placed on the practical application of quantitative and AI methods to solve complex business problems.
Prerequisite: Admission to the MBA Program, MS in Applied Data Analytics, Business Analytics Certificate Program or permission of the program director.

G_COB_MBA_2024_6

Add AI components to ACC 5270 - Current Issues in Technology and AIS. Update course content. Update Course name to ACC 5270-Current Issues in Technology and AIS: Innovative AI Solutions for Business and Accounting Professionals.
Create new MBA 5270-Current Issues in Technology and AIS: Innovative AI Solutions for Business and Accounting Professionals.
Cross-list with MBA 5270-Current Issues in Technology and AIS: Innovative AI Solutions for Business and Accounting Professionals.
MBA and MSADA students should take MBA 5270. MSA students should take ACC 5270. ACC 5270 and MBA 5270 are the same.

Current Bulletin copy

ACC 5270 - Current Issues in Technology and AIS (3)
When Offered: On Demand
A current-issues course designed to explore new developments in business technology and accounting information systems.
Prerequisite: Permission of the instructor.

Proposed Bulletin copy

MBA/ACC 5270 - Current Issues in Technology and AIS: Innovative AI Solutions for Business and Accounting Professionals (3)
When Offered: On Demand
Explore cutting-edge developments in business technology and accounting information systems, focusing on artificial intelligence and advanced data analytics. Gain hands-on experience with data management, AI-assisted coding, cloud-based machine learning, and business process automation. Equip yourself to lead and innovate using AI technologies.
Prerequisite: Admission to the MBA Program, MS in Applied Data Analytics, MS in Accounting Program, Business Analytics Certificate Program or permission of the program director.

GU_COB_CIS_2024_1

Add AI components to CIS 4760/5760 - Global Blockchain for Business. Update course content. Update Course name to CIS 4760/5760 Global Blockchain and AI Applications for Business.

Current Bulletin copy

CIS 5760 - Global Blockchain for Business (3) [DL]

When Offered: On Demand

This course provides an overview of global business blockchain, distributed ledger technologies, and other emerging Web3 applications to students with a business background. Blockchain use cases in technology, business, analytics and enterprise products and institutions from Northern Africa, Sub-Saharan Africa, Latin America, North America, Asia, Europe, and Oceania will be discussed and evaluated. Short-term and long-term social and ethical impact of blockchain based applications will be interpreted.

[Dual listed with CIS 4760.]

Proposed Bulletin copy

CIS 5760 - Global Blockchain and AI Applications for Business (3) [DL]

When Offered: On Demand

This course provides an in-depth exploration of blockchain and artificial intelligence (AI) technologies as they reshape global business practices and Web3 applications. Students will examine distributed ledger technologies and AI-driven applications in business, analytics, and enterprise products across regions including Northern Africa, Sub-Saharan Africa, Latin America, North America, Asia, Europe, and Oceania. Emphasis will be placed on blockchain and AI use cases in areas such as supply chain transparency, financial inclusion, and predictive analytics. The course will also address the short- and long-term social and ethical implications of these emerging technologies, equipping students to assess their impact on diverse global markets and societies.

[Dual listed with CIS 4760.]

G_GRAD_2024_02 Clarify policy regarding candidacy, particularly at the master's level, and regarding registration of thesis credit.

Admission to Candidacy for Degree Seeking Students

Some graduate programs require Admission to Candidacy upon completion of a set of courses or other requirements.

Students wh~~o have demonstrated their ability to succeed as outlined below may apply fo~~r ~~candidacy, if required, using the Admission to Candidacy form or the Thesis/Dissertation Committee Form, which require approva~~l of the student's advisory committee and the Department Chair or Program Director. Students must be in good standing academically (3.0 GPA minimum) to apply for candidacy. It is the student's responsibility to request to be considered for candidacy if required.

- Candidacy in a doctoral program ~~the EdD Program~~ (required): Candidacy requires satisfactory completion of the Qualifying Exam and Dissertation Prospectus.
- Candidacy in a Master's or Specialist Program:
    - Thesis programs (required): Candidacy requires at least one semester of successful graduate study at Appalachian. Admission to Candidacy is contingent upon the recommendation of the applicant's advisory committee, and a student cannot register for thesis hours until a thesis committee form is submitted. ~~candidacy is granted.~~
    - Non-thesis programs: Requirements and deadlines for Admission to Candidacy vary by program.

Denial or revocation of candidacy: If the student is denied candidacy or if candidacy is revoked, the program director will inform the student and the Graduate School in writing regarding the reasons for this action. Denial or revocation of candidacy will result in suspension and dismissal from the program.

Thesis - Master's or Specialist

The thesis should represent the culmination of an independent research project conducted by the student, and demonstrate understanding of the related literature and research methodology. The thesis is expected to be written in grammatically correct English and conform to accepted standards used in research writing in the discipline of study, as well as conforming to the formatting requirements established in the Graduate School Thesis Manual. In special cases, languages other than English may be used; the substitution is not permitted as a matter of the student's convenience, but may be allowed when the student

has sufficient skill at composition and has a thesis topic that is, in the judgment of the advisor, especially suited to treatment in the second language. The Graduate Dean's approval of the use of a language other than English must be obtained in advance.

The department chair or designee approves any member of the department's graduate faculty to act as chair of the thesis committee and to supervise the writing of the thesis. Thesis committees must consist of at least three members, including the committee chair. Committee members who are not the thesis advisor may be graduate faculty from another department or institution. Those from another department must be approved by the department chair or designee for the department in which the degree program resides. Those from outside the institution must have affiliate graduate faculty status or be registered with the Graduate School as an external committee member and be approved by the department chair and Dean of the Graduate School.

Before being permitted to register for thesis credit, the student must have a graduate school approved thesis committee.

1. ~~be admitted to candidacy~~
2. ~~have presented a prospectus or research abstract to the thesis committee, and~~
3. ~~applied for any necessary IRB or IACUC approval to work with human or animal subjects,~~

Students should coordinate with their thesis committee the scheduling of their prospectus, application for any necessary IRB or IAUCUC approval, and scheduling their final defense in consideration of the graduate school's published deadlines each semester.

~~For all students pursuing the thesis option in a program, all thesis hours will be considered program of study hours, some of which may be over and above the minimum stated hours for the degree.~~

Dissertation

~~A dissertation is required of all doctoral students~~. The dissertation should represent the culmination of an independent research project conducted by the student, and will show command of the literature and research methodology of her/his specialty. The dissertation is expected to be written in grammatically correct English and conform to accepted standards used in research writing. In special cases, languages other than English may be used; the substitution is not permitted as a matter of the student's convenience, but may be allowed when the student has sufficient skill at composition and has a dissertation topic that is, in the judgment of the advisor, especially suited to treatment in the second language. Graduate School approval of the use of a language other than English must be obtained in advance.

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The student must have passed qualifying examinations and presented a prospectus to the dissertation committee and received approval of the proposed topic before being permitted to register for dissertation hours. Dissertation committees must consist of at least three members, including the committee chair. Committee members who are not the dissertation ~~thesis~~ advisor may be from another department or institution. Those from another department must be approved by the department chair or designee for the department in which the degree program resides. Those from outside the institution must have affiliate graduate faculty status or be registered with the Graduate School as an external committee member and be approved by the department chair and Dean of the Graduate School.

Dissertation grading: Students who are judged by the dissertation committee chair to be making satisfactory progress in the term of enrollment will be assigned a grade of IP (in progress) by the chair for that term. Students who are not progressing satisfactorily will be assigned a grade of U. Students who receive a grade of U will not be permitted to continue.

Completion of dissertation: ~~The dissertation defense should be completed at least 10 calendar days before the last regular class day, and the final draft of the dissertation must be submitted to the graduate school no later than 7 calendar days prior to the last regular class day. The Graduate School will review the dissertation for style and format, and return the manuscript to the student within 15 business days of submission.~~

Students may be required to make modifications and resubmit their dissertation for additional review prior to signature by the Dean of the Graduate School. Once the Dean has signed the dissertation, the dissertation requirement is met, and the grade in all dissertation hours will be changed by the Registrar from IP to S. This entire approval process must be completed by the day before the next academic term begins or the student will not be eligible to graduate until the next term. For detailed information on the dissertation process, the student should refer to the Thesis and Dissertation Handbook, available from the Graduate School (http://www.graduate.appstate.edu/graduate-thesis-and-dissertation-manual).

Clean

Admission to Candidacy for Degree Seeking Students

Some graduate programs require Admission to Candidacy upon completion of a set of courses or other requirements.

Students who have demonstrated their ability to succeed as outlined below may apply for candidacy. Students must be in good standing academically (3.0 GPA minimum) to apply for candidacy. It is the student's responsibility to request to be considered for candidacy if required.

- Candidacy in a doctoral program (required): Candidacy requires satisfactory completion of the Qualifying Exam and Dissertation Prospectus.
- Candidacy in a Master's or Specialist Program:
    - Thesis programs (required): Candidacy requires at least one semester of successful graduate study at Appalachian. Admission to Candidacy is contingent upon the recommendation of the applicant's advisory committee, and a student cannot register for thesis hours until a thesis committee form is submitted.
    - Non-thesis programs: Requirements and deadlines for Admission to Candidacy vary by program.

Denial or revocation of candidacy: If the student is denied candidacy or if candidacy is revoked, the program director will inform the student and the Graduate School in writing regarding the reasons for this action. Denial or revocation of candidacy will result in suspension and dismissal from the program.

Thesis - Master's or Specialist

The thesis should represent the culmination of an independent research project conducted by the student, and demonstrate understanding of the related literature and research methodology. The thesis is expected to be written in grammatically correct English and conform to accepted standards used in research writing in the discipline of study, as well as conforming to the formatting requirements established in the Graduate School Thesis Manual. In special cases, languages other than English may be used; the substitution is not permitted as a matter of the student's convenience, but may be allowed when the student has sufficient skill at composition and has a thesis topic that is, in the judgment of the

advisor, especially suited to treatment in the second language. The Graduate Dean's approval of the use of a language other than English must be obtained in advance.

The department chair or designee approves any member of the department's graduate faculty to act as chair of the thesis committee and to supervise the writing of the thesis. Thesis committees must consist of at least three members, including the committee chair. Committee members who are not the thesis advisor may be graduate faculty from another department or institution. Those from another department must be approved by the department chair or designee for the department in which the degree program resides. Those from outside the institution must have affiliate graduate faculty status or be registered with the Graduate School as an external committee member and be approved by the department chair and Dean of the Graduate School.

Before being permitted to register for thesis credit, the student must have a graduate school approved thesis committee.

Students should coordinate with their thesis committee the scheduling of their prospectus, application for any necessary IRB or IAUCUC approval, and scheduling their final defense in consideration of the graduate school's published deadlines each semester.

Dissertation

The dissertation should represent the culmination of an independent research project conducted by the student, and will show command of the literature and research methodology of her/his specialty. The dissertation is expected to be written in grammatically correct English and conform to accepted standards used in research writing. In special cases, languages other than English may be used; the substitution is not permitted as a matter of the student's convenience, but may be allowed when the student has sufficient skill at composition and has a dissertation topic that is, in the judgment of the advisor, especially suited to treatment in the second language. Graduate School approval of the use of a language other than English must be obtained in advance.

The student must have passed qualifying examinations and presented a prospectus to the dissertation committee and received approval of the proposed topic before being permitted to register for dissertation hours. Dissertation committees must consist of at least three members, including the committee chair. Committee members who are not the dissertation advisor may be from another department or institution. Those from another department must be approved by the department chair or designee for the department in which the degree program resides. Those from outside the institution must have affiliate graduate faculty status or be registered with the Graduate School as an external committee member and be approved by the department chair and Dean of the Graduate School.

Clean

Dissertation grading: Students who are judged by the dissertation committee chair to be making satisfactory progress in the term of enrollment will be assigned a grade of IP (in progress) by the chair for that term. Students who are not progressing satisfactorily will be assigned a grade of U. Students who receive a grade of U will not be permitted to continue.

Completion of dissertation:

Students may be required to make modifications and resubmit their dissertation for additional review prior to signature by the Dean of the Graduate School. Once the Dean has signed the dissertation, the dissertation requirement is met, and the grade in all dissertation hours will be changed by the Registrar from IP to S. This entire approval process must be completed by the day before the next academic term begins or the student will not be eligible to graduate until the next term. For detailed information on the dissertation process, the student should refer to the Thesis and Dissertation Handbook, available from the Graduate School (http://www.graduate.appstate.edu/graduate-thesis-and-dissertation-manual).