

STATE BOARD OF COMMUNITY COLLEGES
Curriculum Program Application
(New to the System)

The State Board of Community Colleges is asked to approve the curriculum program at the listed college on the condition that equipment funds are available to the college and operating funds generated by the budget formula will permit the offering of the program without any special allocation of funds.

Rockingham Community College
Environmental Planning and Development (A55350)

Contact(s):

Dr. Lisa Eads
Associate Vice President, Programs

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Rockingham Community College
Environmental Planning and Development (A55350)**

Program Planning: Rockingham Community College is seeking approval for the Environmental Planning and Development (A55350) program to begin Fall 2021. The planning area is defined as the college's service area of Rockingham County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Rockingham Community College on July 21, 2020. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Rockingham Community College have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

Program Rationale: Rockingham Community College (RCC) indicates the following:

- The intent of the Environmental Planning and Development Program is to provide individuals with the knowledge and skills to plan, design, maintain, and manage sustainable trails, blueways, greenways, and public park systems. Graduates of the program will be prepared to be successful in outdoor recreational asset design, construction, planning, business, and management.
- The proposed program will meet an existing need by filling a critical skills gap among current outdoor recreation professionals. The program would provide more knowledgeable and skilled workers with practical experience in developing outdoor recreation infrastructure in an area rich with natural and recreational resources.
- Another unique aspect of the proposed program is that it will attract students and potential national recognition to the North Carolina Community College System due to the program's originality as the only one of its kind in the United States.
- Currently, RCC offers the Duke Energy Trail Recreation and Adventure Institute for Leadership and Service (TRAILS) in continuing education. Between the summer of 2017 and October 2019, the Duke Energy TRAILS continuing education program at RCC has

served 249 students through 29 classes. The courses have included students from South Carolina, Virginia, Tennessee, New Mexico, Indiana, Ohio, Vermont, and Puerto Rico. Greater opportunities to support the mission of this program would be created by expanding its reach and influence through the development of a curriculum program in Environmental Planning and Development (EPD).

- The broad nature of the parks, recreation, and tourism management field poses challenges in preparing students adequately for employment. Bachelor degree program concentrations allow students to focus on subject matter, however the practical skills students need to face tasks in the field are often lacking. The relevant, practical, “hands-on” skills that the EPD program provides would further extend the skills continuing education has provided and better equips students to enter employment in the field.
- By developing a curriculum program in Environmental Planning and Development, RCC will be able to reach students on the front end of their educational and career pathways. Western Carolina University, Appalachian State University, and North Carolina State University have indicated an interest in a 2 + 2 articulation agreement with RCC.
- The curriculum program will provide practical experience for students by allowing them to assist in the development and improvement of outdoor recreation infrastructure in Rockingham County and beyond. Rockingham County is located in the heart of the Dan River Basin, and RCC has approximately three miles of natural surface trail which provides an immediate, proximate opportunity for educational field experience. A more formal instructional setting combined with hands-on experience will produce employable graduates with verifiable skills and work experience.
- Recent TRAILS continuing education students seeking to enhance their skills have been employees of agencies and organizations such as the National Park Service, NC State Parks, land trusts, non-profit environmental and trail advocacy groups, US Forest Service, County/City Parks and Recreation Departments, DuPont State Recreational Forest, and Duke Energy. EPD curriculum program graduates would be ideal candidates for employers such as these and would also be well-prepared to establish their own outdoor planning and development businesses in trail design and outdoor facilities planning, construction, and maintenance.
- The program will also have a positive effect locally, regionally, and statewide on an emerging outdoor recreation economy. According to the Outdoor Industry Association (OIA), each year the outdoor recreation economy generates \$887 billion in consumer spending and 7.6 million American jobs. In North Carolina, the outdoor recreation economy generates \$28 billion in consumer spending annually, 260,000 direct jobs, \$8.3 billion in wages and salaries, and \$1.3 billion in state and local tax revenue. The *North Carolina Outdoor Recreation Plan, 2015-2020*, reported that, during the past five years, about a third of all the state’s Parks and Recreation Trust Fund matching grants to local governments have included funds for trail development or renovation.

- NC Chamber of Commerce projects that employment for recreational workers is expected to grow by 8.3 percent between 2017 and 2026. The annual income for these workers ranges from \$18,080- \$34,360 with a median income of \$25,250 as reported by NCCareers.org. For hourly workers, Indeed.com cites an average hourly wage for recreation specialists is \$15.45. NC Works reports that, as of April 13, 2020, there are 122 jobs available for recreation workers. There were 326 jobs advertised for recreation workers in March 2020.
- Graduates of the Environmental Planning and Development program will be qualified to work and manage a profitable, community-based businesses and be able to pursue entrepreneurial opportunities.
- Letters of support were received from Appalachian State University, Conservation Legacy: Conservation Corps NC, NC Division of Parks and Recreation, City of Eden, Rockingham County Center for Economic Development, Small Business and Tourism.

Impact of the Proposed Program on Other Programs: The Environmental Planning and Development (A55350) degree is new to the system. An impact assessment was sent to two colleges that offered similar programs, Recreation/Leisure (A55360) and Outdoor Leadership (A55330). These are the only colleges offering these programs. ***No negative impact responses were received.***

Implementation of Collaborative Plan: Not Applicable

Curriculum Design: The proposed program of study is in compliance with the State Board approved curriculum standard.

Curriculum Description as Designated on Curriculum Standard:

This curriculum is designed to prepare individuals and provide skills essential to being successful in outdoor recreational asset design, construction, planning, businesses, and management. Students will gain an understanding of the principles and develop technical skills in environmental design, outdoor recreation, and management. The course of study provides a background in outdoor assets, design, and policy. Course work is taught through lecture, discussion, and experiential activities/fieldwork. Graduates from this program will have a strong background in planning, design, construction, assessment, maintenance, and management of natural recreational systems. Graduates are prepared for employment with non-profits, government agencies, landscaping and outdoor companies, and self-employment.

Contact(s):

Dr. Mary Olvera
CTE Coordinator

CURRICULUM STANDARD

Effective Term Fall 2021 [2021*03]

Curriculum Program Title	Environmental Planning and Development	Program Code	A55350
Concentration	(not applicable)	CIP Code	03.0206

Curriculum Description

This curriculum is designed to provide students with the knowledge and skills for employment and growth in the environmental and outdoor recreation industry. Graduates will be prepared to plan, design, construct, assess and manage outdoor recreational assets.

Coursework includes topics related to environmental planning, outdoor recreation, outdoor asset design, policy mandates, and effective management techniques. Course work will be taught through lecture, discussion, experiential activities and fieldwork.

Graduates of this program should qualify for employment with non-profits, government agencies, landscaping, outdoor companies and other environmental and recreational entities. Graduates of this program will have the skills to pursue entrepreneurial opportunities.

Curriculum Requirements*

[for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.10]

- I. **General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.
- II. **Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work-based learning may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. *(See second page for additional information.)*
- III. **Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	AAS	Diploma	Certificate
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit (SHC)	64-76	36-48	12-18

*Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.

Major Hours

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.
- B. Concentration** (*if applicable*). A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work-based learning may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

Environmental Planning and Development A55350

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE	25 or 26 SHC	25 or 26 SHC	

Required Courses:

EPD 111	Intro to Env. Plan. & Dev.	2 SHC
TRL 110	Int. to Tr., Blwys. & Grwys.	2 SHC

Select one of the following courses:

EPD 180	Plan. & Des. Pro. Vis. Tech.	3 SHC
GIS 111	Introduction to GIS	3 SHC

Select one of the following courses:

EPD 115	Env. Plan., Des. & Layout	3 SHC
LAR 242	Planning & Environments	3 SHC

Select one of the following courses:

EPD 220	Land Use MAPC	3 SHC
TRL 220	Sustainable Trail MAPC	3 SHC
BUS 148	Survey of Real Estate	3 SHC

Required Subject Areas (Select one of the following three subject areas):**Environmental Planning**

EPD 200	Env. Plan. and Land Use	3 SHC
EPD 230	Pub. Pl., Part. & Comm. Eng.	3 SHC

Select one of the following courses:

TRL 253	Comm. Paths & Placemaking	3 SHC
PAD 253	Intro to Urban Planning	3 SHC

Select one of the following courses:

AGR 160	Plant Science	3 SHC
GEO 130	General Physical Geography	3 SHC

Outdoor Economy & Development

BUS 110	Introduction to Business	3 SHC
BUS 139	Entrepreneurship I	3 SHC
MKT 120	Principles of Marketing	3 SHC

Select one of the following courses:

ODL 284	Principles of Ecotourism	3 SHC
REC 122	Program Administration	3 SHC
ACC 120	Prin. of Financial Accounting	4 SHC

Trails & Outdoor Recreation Infrastructure

TRL 210	Work Crew Lead. & Risk Mgt.	2 SHC
EPD 125	Parks, Land. & Tr. Mn. Tech.	3 SHC

Select one of the following courses:

EPD 120	Rec. Struct. Const. Tech.	4 SHC
TRL 120	Sus. Trail Const. Tech.	4 SHC
LAR 112	Landscape Materials & Methods	4 SHC

Select one of the following courses:

AGR 160	Plant Science	3 SHC
GEO 130	General Physical Geography	3 SHC

B. CONCENTRATION (Not applicable)

<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ACC, AGR, ART, BIO, BPR, BUS, CAR, CEG, CHM, CIS, CMT, CST, DFT, ECO, ENV, EPD, FOR, FWL, GEL, GEO, GIS, HEO, HET, HOR, IVS, LAR, LID, LSG, MAS, MKT, MNT, ODL, OMT, PAD, PHS, PMT, REC, SRV, TRE, TRL, WBL</p>			
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Proposed Environmental Planning and Development Courses (EPD) and Trails (TRL) Courses

*Effective Term – Fall 2021 [2021*03]*

**EPD 111 Intro. to Env. Plan. & Dev.
(Introduction to Environmental Planning and Development)**

Class 2 Lab 0 Clinical 0 Work 0 Credit 2

Prerequisites: None

Corequisites: None

This course introduces the history, philosophy, and current trends in environmental planning, development, and land use management. Topics include the history and principles of environmental planning, regional planning, natural systems, community partnerships, and local policies and procedures. Upon completion, students should be able to clearly articulate the key issues and background information in environmental planning and current trends in the field.

**EPD 115 Env. Plan., Design, & Layout
(Environmental Planning, Design, and Layout)**

Class 1 Lab 4 Clinical 0 Work 0 Credit 3

Prerequisites: None

Corequisites: None

This course covers planning, design, and layout of outdoor recreational and leisure infrastructure projects for multiple uses. Topics include desktop planning, field design and layout, and corridor and pin flagging of sites and trail plans. Upon completion, students should be able to read and utilize various types of maps and layouts for planning and design of recreational sites with proficient use of appropriate tools.

**EPD 120 Rec. Struct. Const. Tech.
(Recreation Structures Construction Techniques)**

Class 2 Lab 4 Clinical 0 Work 0 Credit 4

Prerequisites: None

Corequisites: None

This course covers construction techniques used for parks and outdoor recreation structures and infrastructures. Emphasis is placed on the use of the required tools used for the construction of recreational structures. Upon completion, students should be able to use a variety of hand tools and mechanized equipment to construct or repair recreational structures and shelters.

**EPD 125 Parks, Land. & Tr. Mn. Tech.
(Parks, Landscapes, and Trail Maintenance Techniques)**

Class 2 Lab 4 Clinical 0 Work 0 Credit 4

Prerequisites: None

Corequisites: None

This course covers park, recreation, and trail maintenance techniques for recreational land and sustainable, traditional natural surface trails using hand tools and mechanized equipment. Emphasis is placed on the use of the required tools used for the maintenance of recreational sites. Upon completion, students should be able to use a variety of hand tools and mechanized equipment to maintain park facilities, surface trails, and other recreational infrastructure.

**EPD 180 Plan. & Des. Pro. Vis. Tech.
(Planning and Design Projects Visualization Techniques)**

Class 3 Lab 0 Clinical 0 Work 0 Credit 3

Prerequisites: None

Corequisites: None

This course introduces the basic skills and concepts of drafting, mapping, or graphical design necessary to complete trail layouts, landscape site plans, or topographical drawings. Topics include surveying the drafting and mapping of recreational site techniques including GIS, design software computer drafting, and hand drawing applications. Upon completion, students should be able to select and utilize the proper techniques and applications used for the planning and design of recreational sites.

**EPD 200 Env. Plan. & Land Use
(Environmental Planning and Land Use)**

Class 3 Lab 0 Clinical 0 Work 0 Credit 3

Prerequisites: EPD 111 Introduction to Environmental Planning

Corequisites: EPD 115 Environmental Planning, Design, and Layout

This course includes an overview of the role of planning in land use and environmental outcomes and an examination of contemporary public policy issues related to environmental systems. Topics include environmental planning, managing human and environment interactions, watersheds, resilience, conservation, habitats, hazard mitigation and smart growth management. Upon completion, students should be able to explain the functions of land use planning in society and in environmental systems that support communities and the outcomes from these decisions.

**EPD 220 Land Use MAPC
(Land Use Management, Assessment, Permitting, & Contracting)**

Class 2 Lab 2 Clinical 0 Work 0 Credit 3

Prerequisites: EPD 111 Introduction to Environmental Planning

Corequisites: None

This course covers sustainable management, assessment, permitting, and contracting for land use projects. Topics include site analysis, project program description, determining permitting requirements for projects, and developing project contracts. Upon completion, students should be able to develop a project assessment report addressing existing environmental conditions and proposed improvements, permitting requirements, contracting and current topics in land use management.

**EPD 230 Pub. Pl., Part. & Comm. Eng.
(Public Planning, Participation, & Community Engagement)**

Class 3 Lab 0 Clinical 0 Work 0 Credit 3

Prerequisites: EPD 111 Introduction to Environmental Planning

Corequisites: EPD 115 Environmental Planning, Design, and Layout

This course provides an overview of the role of impacted populations on the public planning processes, historical examples, and examinations of contemporary participation issues. Topics include the different public planning participation approaches, a history of planning processes, and community engagement skill development. Upon completion, students should be able to demonstrate the functions of public participation in planning, local democracy, and community problem-solving related to environmental planning processes.

EPD 250 Regional Resilience

Class 3 Lab 0 Clinical 0 Work 0 Credit 3

Prerequisites: EPD 111 Introduction to Environmental Planning

Corequisites: EPD 200 Environmental Planning and Land Use

This course includes an overview of the different roles and strategies of government, nonprofit, and private enterprises to adjust and restore key services and functions during environmental acute or chronic crises. Topics include various levels of government and public services, regional collaborations, and best planning practices relative to environmental, social, and financial vulnerabilities. Upon completion, students should be able to demonstrate the functions and strategies for planning government services under regional conditions of duress.

**TRL 110 Int. to Tr., Blwys. & Grwys.
(Introduction to Trails, Blueways, and Greenways)**

Class 2 Lab 0 Clinical 0 Work 0 Credit 2

Prerequisites: None

Corequisites: None

This course introduces the history, philosophy, and current trends in trail, blueway and greenway planning, development, and management. Topics include the history, traditions, and principles of sustainable trails, regional trail planning, traditional natural surface trails, blueways, greenways, partnerships, and the user experience. Upon completion, students should be able to clearly demonstrate the relevance of the evolution of trails, blueways, greenways and current trends in the field.

**TRL 120 Sust. Trail Const. Tech.
(Sustainable Trail Construction Techniques)**

Class 2 Lab 4 Clinical 0 Work 0 Credit 4

Prerequisites: None

Corequisites: None

This course covers sustainable trail construction techniques that minimize the effects of natural and user impacts on trails while enhancing the user experience. Emphasis is placed on the use of the appropriate tools used for the construction of sustainable trail structures and natural surfaces. Upon completion, students should be able to use a variety of hand tools and mechanized equipment to construct natural surface sustainable trails.

**TRL 210 Work Crew Lead. & Risk Mgt.
(Work Crew Leadership and Risk Management)**

Class 2 Lab 0 Clinical 0 Work 0 Credit 2

Prerequisites: TRL 110 Introduction to Trails, Blueways, and Greenways

Corequisites: TRL 120 Sustainable Trail Construction Techniques

This course covers the different management skills used to effectively lead and supervise park volunteers and trail workers. Topics include effective management skills including the safety, risk management and group dynamics of park volunteers and trail workers. Upon completion, students should be able to demonstrate the knowledge, judgement, safety, risk management and supervisory skills necessary to lead and manage a work crew.

**TRL 220 Sustainable Trail MAPC
(Sustainable Trail Management, Assessment, Permitting, & Contracting)**

Class 1 Lab 4 Clinical 0 Work 0 Credit 3

Prerequisites: TRL 110 Introduction to Trails, Blueways, and Greenways

Corequisites: TRL 120 Sustainable Trail Construction Techniques

This course covers the different aspects of trail management, assessment, permitting, and contracting for sustainable and traditional natural surface trails. Topics include the assessment of trail condition, maintenance, safety, permit requirements and developing contracts for trail construction, maintenance, and management. Upon completion, students should be able to develop a trail assessment report that includes maintenance schedules, wet weather trail management, trail conditions, signage, trail facilities, proposed improvements, permit and contract requirements.

TRL 225 Universal Trail Assessment

Class 2 Lab 3 Clinical 0 Work 0 Credit 3

Prerequisites: TRL 110 Introduction to Trails, Blueways, and Greenways & TRL 120 Sustainable Trail Construction Techniques

Corequisites: None

This course covers the Universal Trail Assessment Process (UTAP) and High Efficiency Trail Assessment Process (HETAP) to objectively document the actual conditions in outdoor, natural environments. Topics include the use of objective measurements, collection of trail data, dissemination of information to trail users, universal design, the Americans with Disabilities Act and related accessibility mandates that affect trails and other outdoor recreation routes. Upon completion, students should be able to demonstrate the use of UTAP, HETAP and associated equipment for trail assessment according to the trail accessibility guidance and legislation.

TRL 253 Comm. Paths & Placemaking

Class 3 Lab 0 Clinical 0 Work 0 Credit 3

Prerequisites: EPD 111 Introduction to Environmental Planning and Development & TRL 110 Introduction to Trails, Blueways, and Greenways

Corequisites: EPD 200 Environmental Planning and Land Use

This course includes an overview of the role of walking, walkability, and site design for accessing outdoor recreation, economic, and public spaces within neighborhoods, towns and municipalities. Topics include urban and suburban planning techniques for analyzing walkability, outdoor recreation, asset-based development, and aesthetic design enhancements. Upon completion, students should be able to demonstrate the benefits of outdoor recreation, economic and public spaces in neighborhoods, towns and municipalities and how it relates to the asset-based development, aesthetic enhancement and other community services design projects.

STATE BOARD OF COMMUNITY COLLEGES
New Curriculum Prefix -
Tiered Funding Formula Recommendations

The State Board of Community Colleges is asked to assign the following new curriculum prefix to the North Carolina Community College System Tiered Funding Formula:

Tier 2

EPD – Environmental Planning and Development

Rationale: The EPD curriculum prefix is designed to be used for courses that prepare students for outdoor recreational asset design, construction, planning, business, and management. Graduates of the program will be qualified for employment in outdoor planning and development businesses, trail design, outdoor facilities planning, construction, and maintenance.

Tier 2

TRL – Trails

Rationale: The TRL curriculum prefix is designed to be used for courses that prepare students to plan, design, maintain, and manage sustainable trails, blueways, greenways, and public park systems. Graduates of the program will be qualified for employment in outdoor planning and development businesses, trail design, outdoor facilities planning, construction, and maintenance.

Background:

On August 15, 2014, the State Board of Community Colleges adopted the 2014-2015 State Aid Allocations and Budget Policies, which included the implementation of a four-tiered funding model. To implement the Tiered Funding Forming Model, all existing curriculum and continuing education course prefixes were assigned to one of four funding levels as defined below:

Tier 1A: Includes curriculum budget FTE in health care and technical education courses that train North Carolinians for immediate employment in priority occupations that have documented skills gaps and pay higher wages. This tier also includes FTE in a limited number of continuing education courses that train students for the exact same third-party certification as curriculum courses in Tier 1A.

Tier 1B: Includes curriculum budget FTE in other high cost areas of health care, technical education, lab-based science, and college-level math courses. With the implementation of Closing the Skills Gap, Tier 1B also includes FTE in short-term, workforce continuing education courses that help prepare students for jobs in priority occupations and lead to competency-based industry credentials.

Tier 2: Includes

- a) all other curriculum budget FTE,
- b) all Basic Skills budget FTE, and
- c) budget FTE associated with other continuing education courses that are scheduled

for 96 hours or more and are mapped to a third-party credential, certification, or industry-designed curriculum.

Tier 3: Includes all other continuing education budget FTE. This weighted allocation model is designed to provide a funding differential between each tier. Tier 1A is funded at a level equal to 30% higher than Tier 2, while Tier 1B is funded at a level that is 15% higher than Tier 2. Tier 3 is funded at a rate that is 15% less than Tier 2.

Contact(s):

Dr. Mary Olvera
CTE Coordinator