

**TECHNICAL UNIVERSITY OF GABROVO**  
**FACULTY OF ECONOMICS**

Decision of the AC  
Protocol No. 2/01.10.2024

Approved  
Rector:  
/Prof. I. Zhelezarov, PhD /

**ACADEMIC PLAN**

Field of higher education: **TECHNICAL SCIENCES** /code **5./**

Professional field: **GENERAL ENGINEERING** /code **5.13./**

Doctoral Program: **ENGINEERING ECOLOGY**

Educational and scientific degree: **DOCTOR**

NQF level: **8**

Form of study: **FULL-TIME, PART-TIME, INDEPENDENT**

Duration of study: **3 (three), 4 (four), 5 (five) years**

## TABLE OF CONTENTS OF THE STUDY PLAN

### I. EDUCATIONAL ACTIVITIES

*Mandatory minimum ECTS credits (TOTAL) – 60*

Subject Title	Type of Course	Form of Assessment	ECTS Credits	Hours Total	Hours all mandatory employment				Department/Lecturer	Year
					lectures	exercises	non-auditory workload	Total		
<b>I. DOCTORAL MINIMUM</b>										
Engineering Ecology	R	Exam	25	625	30	0	595	625	Department of MINS (Scientific supervisor)	First
Foreign Language	R	Exam	10	250	30	0	220	250	Department of Language and Specialized Training Teacher/s	First
<b>II. BROAD PROFILE COURSES</b>										
Protection of Intellectual Property (Patent Law)	E	Exam	10	250	15	15	220	250	Department of Social Sciences Assoc. Prof. Svetla Panayotova Assoc. Prof. Tsvetelina Gankova -Ivanova Assoc. Prof. Ventsislava Nikolova-Minkova	First or Second
Statistical Methods for Analysis in Scientific Research	E	Exam	10	250	15	15	220	250	Department of Management Assoc. Prof. Daniela Dimova Sen. Assistant Petko Naydenov	First or Second
Applied Software Products in Engineering Ecology	E	Exam	10	250	15	15	220	250	Department of MINS Assoc. Prof. Dragomir Vassilev	First or Second

Subject Title	Type of Course	Form of Assessment	ECTS Credits	Hours Total	Hours all mandatory employment				Department/Lecturer	Year
					lectures	exercises	non-auditory workload	Total		
Ecosystem Modeling	E	Exam	10	250	15	15	220	250	Department of AIUT Assoc. Prof. Stanimir Yordanov	First or Second
<b>III. SPECIALIZATION DISCIPLINES</b>										
Air Purification Techniques	E	Exam	15	375	15	15	345	375	Department of MINS Assoc. Prof. Dragomir Vassilev Sen. Assistant Daniela Nedeva	First or Second
Water Purification Techniques	E	Exam	15	375	15	15	345	375	Department of MINS Assoc. Prof. Dragomir Vassilev	First or Second
Waste Treatment and Utilization Techniques	E	Exam	15	375	15	15	345	375	Department of MINS Assoc. Prof. Dragomir Vassilev	First or Second
Modern Methods for Identifying Pollutants	E	Exam	15	375	15	15	345	375	Department of MINS Assoc. Prof. Dragomir Vassilev	First or Second
Management of Specific Waste Streams	E	Exam	15	375	15	15	345	375	Department of MINS Assoc. Prof. Dragomir Vassilev Sen. Assistant Daniela Nedeva	First or Second

R – required discipline

E - elective discipline

*\*\*Doctoral students choose at least one broad profile and one specialization discipline. A certificate for successful completion of all exams from the individual curriculum (IUP) is issued upon accumulating a minimum of 60 credits. The number of credits allocated to the disciplines of the curriculum complies with the Regulations for Admission and Training of Doctoral Students at the Technical University – Gabrovo.*

## II. RESEARCH ACTIVITY

*Mandatory minimum ECTS credits (TOTAL) – 100*

### 1. DISSERTATION WORK

*Mandatory minimum ECTS credits – 60*

Activity Title	ECTS Credits for the Entire Period	Year
Determining the research problem and developing a concept for a doctoral dissertation	16	First year, main part of the dissertation
Dissertation preparation: - Developing the structure of the dissertation – 2 ECTS credits; - Studying literature and other information sources – 4 ECTS credits; - Preparatory and accompanying activities for the dissertation – up to 3 ECTS credits; - Research / Presentation of concepts and tools for research. - up to 5 ECTS credits per year; - Preparation and presentation of separate parts of the dissertation - up to 5 ECTS credits per separate part.	36 (full time, part-time), 20 (independent)	Annually, separate part of the dissertation
Presentation of the results of the current work to the department council of the training department	12	Annually, minutes of the department council
Presentation of a substantially prepared dissertation to the department council of the training department	12	Last year, Report from the supervisor on the fulfillment of the requirements. Protocol of the department council

## 2. RESEARCH WORK

*Mandatory minimum ECTS credits – 40*

Activity Title	ECTS Credits	Semester Offered
Scientific publication in journals that are referenced and indexed in world-renowned scientific databases	40 or distributed	Annually, publications
Scientific publication in non-refereed journals with scientific peer review or in edited collective volumes	20 or distributed	Annually, publications
Participation in a research and/or educational project	5	Annually, report
Participation in national/international scientific forums/conferences and other public scientific events	2	Annually, report, program of the scientific forum

**Note:**

1. Credits earned from dissertation publications correspond to the number of points due according to the national minimum requirements established in the Regulations for the Implementation of the Law on the Development of the Academic Staff.
2. Credits are recalculated proportionally to the declared participation, where "n" is the number of authors of the respective publication.

## III. TEACHING AND/OR EXPERT ACTIVITY

*Mandatory minimum ECTS credits – 20*

Activity Title	ECTS Credits	Semester Offered
Conducting seminars and laboratory exercises - for 15 hours	10	Second and/or Third year
Supervising coursework, projects, supervision/consultant and reviewer of diploma theses - for 15 hours	5	Second and/or Third year
Expert or consulting activity	10	Document for Activity performed

**Note:** The teaching load is recorded in accordance with the Standards for the workload of academic staff for the respective academic year.

**IV. DISSERTATION DEFENSE**  
*Mandatory minimum ECTS credits – 30*

Activity Title	ECTS Credits	Semester Offered
Preliminary defense of a dissertation	10	After initiating the public defense procedure
Defense of a dissertation before a scientific jury	20	After a successful public defense

*The application of the system for accumulation and transfer of credits in the training according to the curriculum complies with Regulation No. 21/2004 for the application of the system for accumulation and transfer of credits in higher education institutions, as follows: 60 credits per academic year.*

*This curriculum provides a mandatory minimum of 120 hours of classroom and 4380 hours of out-of-class workload, which equals 180 ECTS credits, necessary for graduation with the right to defend.*

*The minimum ECTS credits for acquiring the EQC "Doctor" is 210 and includes 30 credits for preliminary and public defense of the dissertation.*

The curriculum was adopted by the Department Council of the Department of "Mathematics, Informatics and Natural Sciences", Protocol No. 9/17.09.2024 and by the Faculty Council of the Faculty of "Economics", Protocol No. 8/18.09.2024.

Head of Department: /Prof. Dr. T. Todorov/

Dean: /Assoc. Prof. Dr. Iv. Stoyanova-Todorova/