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Tbilisi State University

PhD Programme
Vocational Education

2024

Table of Content

Program outline

Name of the Program	Vocational Education
Qualification awarded	PhD in Education Science
Distribution of credits ECTS	The minimum number of semesters provided for study on the program is 6. **Learning component – 35 ECTS credits** **Mandatory courses – 25 ECTS credits** ▪ VET Scientific Genesis and Theories – 5 ECTS credits ▪ Research Methods in VET Education – 10 ECTS credits o Research Methods and Methodology in VET Education I – 5 ECTS credits o Research Methods and Methodology in VET Education II – 5 ECTS credits ▪ Assistantship – 5 ECTS credits ▪ Seminar – 5 ECTS credits **Elective Courses – 10 ECTS credits** ▪ Leadership and administration for research practice and policy in education and beyond – 5 ECTS credits ▪ Vocational Education for Sustainable Development – 5 ECTS Credits ▪ Teaching and Learning in Natural and Virtual Learning Environments – 5 ECTS Credits ▪ Teaching and Learning Methods – 5 ECTS Credits **Scientific-research component** ▪ Research project 1 ▪ Research project 2 ▪ PhD Thesis
Language of instruction	English
Head of the program	Assoc. Prof. Irma Grdzelidze Prof. Frank Bunning
Admission prerequisites	Master's degree in any field; 3 years of work experience in the field of VET - for those who do not have a master's degree in education; Examination in the field of study; English at C1 level: international recognized certificate (TOEFL iBT 110; IELTS 7,0) or the university examination

	Consent of the Supervisor. Research proposal /A vision for the development of the research topic in writing; Interview around the research topic.
Goal of the program	The PhD program in Vocational Education aims at preparing the researcher to address the needs and challenges of modern VET on national and international levels by producing scientific solutions to contribute to the development of VET sector. The goal of the program is conceptually based on the mission and vision of the University implementing the program which covers lifelong learning, societal engagement, new knowledge creation and transfer. The goal of the doctoral program is to prepare a specialist in the field of education, a researcher who will: ▪ Research challenges and analyse relevant needs of VET sector based on the scholarly knowledge of the field of education sciences; ▪ Independently solve complex problems in the area of VET based on the scholarly knowledge of education sciences; ▪ Create innovative scholarly product based on the analysis and synthesis of the latest scientific achievements in the fields of education sciences, and promote cultural and social and economic development of the country; ▪ Engage in academic and scholarly activity on the international level in the field of VET and education sciences; ▪ Effectively manage the learning process in VET providers on the fundamental knowledge of the regularities of the teaching-learning process; ▪ Manage the teaching process efficiently in vocational and higher education based on the fundamental knowledge of the regularities of the teaching-learning process.
Learning Outcomes	
Knowledge and understanding	Upon the completion of the program, the PhD graduate will have: 1. Complex professional knowledge built on the latest scientific achievements in the field of education sciences; including research methodology developments in the sector 2. Knowledge of the theories of pedagogical sciences and the VET; 3. Didactics of general and relevant specific fields - learning principles, methods, technologies, forms of

	assessment - knowledge based on the best international practices in the area of education and VET; 4. Ability to analyse and evaluate the main trends in the country's VET policy - historical perspective and modernity.
Skills	Upon the completion of the program, the PhD student will be able to: 5. Critically analyse, synthesize and evaluate recent scientific findings or approaches in the field of education sciences; 6. Analyse complex problems in the area of VET and conduct research independently to solve them, while also maintaining academic ethics and integrity; 7. Create new knowledge in relation to the scientific knowledge accumulated in the field of education sciences, and communicate such knowledge to professional and broad public; 8. Use modern approaches to teaching, methods / techniques and technologies in the process of pedagogical activities, self-reflection and modification of student-centred teaching approaches; 9. Ability to participate in the professional analysis and planning of the country's education and VET policy;
Autonomy and responsibility	Upon the completion of the program, the PhD student will have: 10. Ability to initiate research projects in the area of education and VET and lead them independently; 11. Ability to solve complex problems in the area of education and VET using creative approaches.
Teaching and learning methods	Oral methods - monologue, dialogue, discussion; Methods of working on the book - independent and explanatory reading; Practical methods - working group, professional practice; Methods of analysis and synthesis, induction and deduction; Case study; Problem-based learning; Project- based learning; Learning by doing; Methods of written work; e-learning;
Evaluation System	**Teaching Component :** • Students evaluation criteria correspond with the Georgian law on higher education and TSU bylaws. • Students receive ECT-s within a 100 point grading system. • The following components are included in the evaluation form: activity, midterms, practical and research assignments, final examination, presentations etc.

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Students are evaluated on the bases of practical and theoretical knowledge.
Some parts of the midterms are/might be carried out online (via TSU e-learning portal as well).

<table>
<tr><td colspan="3">Evaluation System</td></tr>
<tr><td>A</td><td>91 -100</td><td>Excellent</td></tr>
<tr><td>B</td><td>81 -90</td><td>Very Good</td></tr>
<tr><td>C</td><td>71 -80</td><td>Good</td></tr>
<tr><td>D</td><td>61 -70</td><td>Satisfactory</td></tr>
<tr><td>E</td><td>51 - 60</td><td>Poor</td></tr>
<tr><td>FX</td><td>41 - 50</td><td>Fail (student can retake the final examination only once)</td></tr>
<tr><td>F</td><td>0 – 40</td><td>Fail (student has to retake the course)</td></tr>
</table>
In accordance with minister's decree N3 (2007) in case of FX assessment student is allowed to take an additional exam. In case of FX assessment in educational program component the institution of higher education is obliged to organize additional exam at least in 5 days after the announcement of the results of final exam. Given obligation is not valid for the dissertation, graduate project/work, creative/performance work or other scientific project/work. The points received at final assessment are not added to the additional exam assessment received by student. Assessment received at additional exam is final assessment and is depicted in total assessment of. In case of receiving 0-50 points in total assessment of educational component considering additional exam assessment student assessment is finalized as F-0 point. In case of F-assessment student must retake the credit.
Research Component:

The Doctoral Standard of the Faculty of Psychology and Educational Sciences of TSU

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<tr><td>Employment areas</td><td>After completing the doctoral program, the PhD graduate is able to be employed in any type / research or educational / governmental or non-governmental institution in the field of education, to lead the educational-scientific process in national and international VET sector.</td></tr>
<tr><td>Tuition Fees</td><td>2250 GEL for citizens of Georgia; 9 000 GEL (3000 USD) for non-citizens of Georgia</td></tr>
<tr><td>Resources</td><td>Number of academic staff involved in the program: Teaching staff from TSU – 5 associate professors and 1 invited</td></tr>
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	lecturer; international staff – 1 invited lecturer. The program is run at the University of TSU, building N3.
Research topics	Policy of VET – national and international levels; Didactics of vocational education; Comparative studies of VET structures; Leadership and Management of VET.
Additional Information	All the courses are conducted in hybrid format. Information about the project and cooperation ● General cooperation The PhD program is based on a research project (Vocasion 2020 – 2023) with the goal to establish such a program with foundations of the project reaching back to 2017. A TSU's implementation partner for the program is the OvGU Magdeburg, Germany. The OvGU has cooperation experiences within the framework of the UNEVOC centre Magdeburg „TVET for Sustainable Development" mandated by UNESCO since 2010, which they constitute as consortium partners together with the Fraunhofer Institute Magdeburg (IFF) and Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. UNEVOC is the UNESCO division responsible for vocational education and training. Based on the outcome of this project, the TSU and OvGU will cooperate in the implementation of the PhD program through: 1) The establishment of a joint Admission Board to select PhD candidates, 2) a Supervision Panel which divides program participant supervision based on relevant research topics and expertise, 3) Exchange of Student and Staff for research and further development purposes (Erasmus+ KA1 Application), 4) The support through German and international lecturers to give lectures for relevant modules ● Co-supervising The supervision of PhD students will be realized through a Co-supervision by Professors of the supervision panel. The PhD student chooses a principal supervisor based on research topic and expertise. The Co-supervisor will be selected

	or chosen from the partner country or partner institution.

Learning Plan/Structure of the Program

Types of Teaching Courses/Modules: Faculty/Rquired/Elective												
N	Number	Name of the Course	ECTS	Study Hours					Prerequisite	Sem		Lecturer(s)
				Contact Hours			Independent	Total		Fall	Spring	
				Lecture	Seminar/ Working Group	Exams						
Mandatory courses – 25												
1		VET Scientific Genesis and Theories	5	30	15					√		Assoc. Prof. Irma Grdzelidze
2		Research Methods and Methodology in VET Education I	5 ECTS	15	30					√		Prof. Markus Boehner, Assoc. Prof. Rusudan Sanadze

3		Research Methods and Methodology in VET Education II	5 ECTS	15	30						√	Prof. Markus Boehner, Assoc. Prof. Rusudan Sanadze
4		Assistantship	5							√	√	Assoc. Prof. Ivane Mindadze Assoc. Prof. Zakaria Kitiashvili
5		Seminar	5							√	√	Assoc. Prof, George Sharvashidze
Elective courses 10 ECTS												
6		Leadership and administration for research practice and policy in education and beyond	5							√		Assoc. Prof. Rusudan Sanadze, Dr. Nikoloz Parjanadze
7		Vocational Education for Sustainable Development	5								√	Assoc. Prof. Irma Grdzelidze
8		Teaching and Learning in Natural and Virtual Learning Environments	5								√	Assoc. Prof. Rusudan Sanadze

9		VET Teaching and Learning Methods	5							√		Assoc. Prof. Ivane Mindadze
Scientific-research component													
		Research project 1											
		Research project 2							Research project 1				
		PhD Thesis							Research project 1 Research project 2				

Module 1: VET Scientific Genesis and Theories

Title of the teaching course	VET Scientific Genesis and Theories
Author(s) of the Course	Dr. Christin Brings, Prof. Dr. Bünning, H. Tegelbeckers, Assoc. Prof. Irma Grdzelidze
Lecturer(s) of the Course	Assoc. Prof. Irma Grdzelidze
Status of the Course	1. Faculty of Psychology and Educational Sciences 2. PhD Program Vocational Education 3. Mandatory 4. English Language Instructed
ECTS	Credits (ECTS): 5 (125 hours) Contact hours throughout semester: 30 h. (Seminars) Students' independent working hours: 85 h.
Prerequisites	N/A
Goals of the teaching course	The aim of this course is to equip students with the necessary knowledge for scientific theories and structures of vocational education as well as the skills for comparing and reflecting current issues of vocational education and working out a VET conception within an institutional context.
Learning outcomes	Upon completion of the course, the student will be able to: ● understand key characteristics of development in vocational education and training (VET) and critically assess relevant research results and current know-how of VET ● understand the structural approaches between the Dual and school-based vocational education and training as well as Dual study (incl. structure of VET administration, public-private-partnership, curricula for work-based learning in companies and vocational schools, research issues on vocational education and training, European Qualification Framework for mobility ● know current scientific discourse in research fields of VET at European and international level – for example: digitalization, sustainability, mobility etc.) ● Know suited methods for curriculum development and planning process of VET (vocational school, company-based training, Train-the-Trainer) ● Know the new trends of VET in terms of prospective development (industry 4.0 and digitalization) ● have a deepened scientific understanding of central subject areas

	and issues of vocational education and training ● can systematically and scientifically work on relevant topics and issues of vocational education to contribute the theory development ● have a pedagogically reflected understanding of key characteristics of and developments in vocational education and training ● can describe, compare and assess national and international developments in vocational education and training ● can discuss and reflect the issues and trends of VET conception and estimate further development potentials ● Develop a conception for implementation of development in a vocational institution basing on the scientific and structural knowhow foundations of the VET ● Evaluate current issues of VET developments ● Outlining strategies for further development of VET sectors/systems in terms of socio-economical, ecological developments
Teaching and Learning Methods	Meta Plan, presentation, discussion, role play, peer-to-peer evaluation, internet research and analysis, various social formats
Course Assignments and Grading	Final assignment: Developing a project management conception of vocational education in organizational context (2500 words) weight ● 30 points for midterm exam (oral). The presentation on pre- selected topic will be evaluated. **27-30 points:** The presented work fully demonstrates the set purposes and outcomes, the latest information, data and literature are applied in the work; The student can present the paper, show the competencies, and participate in the discussion on the presentation thesis, mention arguments and defend own opinions; The visual part of the presentation materials deserves the approval, materials are independently prepared using computer techniques and relevant software, etc. **21-26 points:** The methodological approach is exhaustively reported; The student is well aware of the material covered by the program; Has applied the basic literature. The presentation is visually well organized. **15-20 points:** The presentation is incomplete; The issue is satisfactorily reported; Terminology is imperfect; The student is aware of the material provided by the program, but there are minor mistakes. The visual part of the presentation materials is carried out at the appropriate level, the report is independently drafted by the use of computer hardware and relevant software; The student can present the paper, show the competences and participate in the discussions related to the presentation issues, but finds difficulties in mentioning the arguments and defending the own opinions. **10-14 points:** The presentation is incomplete; Terminology is wrong; The subject matter of the issue is reported in part; The student is insufficiently aware of the basic literature; The significant mistakes are noted in the

	presentation. **1-9 points:** The presentation is imperfect; Terminology is not used or is not appropriate; Only separate fragments of the material relevant to the issue are worked out. The presented paper does not reflect the purposes and outcomes, the visual part of the presentation report is unsatisfactory; The student cannot make the presentation of the report and cannot participate in the discussion. **0 points:** The presentation is not made at all; the presentation is not presented; ● 30 points for oral and written pieces of seminar work **26-30 points: The work is performed;** The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained in the thesis. **20 - 25 points: The work is performed**; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing is maintained. **15- 19 points: The work is performed incompletely**: The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style. **9-14 points: The work is performed incompletely;** The material is processed in part; The student is not sufficiently aware of the material envisaged by the program. There are important shortcomings in maintaining the academic style. **1-8 points: The work is imperfect;** Only separate fragments of the task are processed. There are important shortcomings in maintaining the academic style. **0 point:** The work is not presented. ● 40 points for final assignment (4 tasks, each -10 points) **9-10 points:** The work is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. TSU scientific online databases have been carefully studied. **7-8 points:** The work is performed; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. TSU scientific online databases have been worked

	out. **5-6 points:** The work is performed incompletely; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. TSU scientific electronic databases are not sufficiently worked out. **3-4 points:** The work is performed incompletely; The material is processed in part; The student is not sufficiently aware of by the program. TSU scientific databases are not worked out. There are important shortcomings in maintaining the academic style. **1-2 points:** The work is imperfect; Only separate fragments of the task are processed. TSU scientific online databases are not used. **0 point**: the assignment is not provided The minimum competence limit for the intermediate assessment is 21 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 20 points.
Basic Literature *The reader is designed according to the basic literature identified in the syllabus. The reader is available to all the students and interested parties*	● Apprenticeship toolbox (2021): Key features. Social partnership. https://www.apprenticeship-toolbox.eu/ ● BIBB (Pb.) 2020: Vocational Training Act https://www.govet.international/dokumente/pdf/The_new_Vocational_Training_Act_May2020.pdf ● BIBB (Pb.) 2009: Vocational education and training for sustainable development: backgrounds, activities, initial results ● BIBB (Pb.) 2013: Ordinance on Vocational Education and Training in the Occupation of Milling machine operator (Training regulation – BIBB /framework curriculum - KMK) ● BÜNNING, F. 2012: Perceptions of science and technology in developed and developing countries - challenges for technical and vocational educations and training (TVET). The future of vocational education and training in a changing world. Wiesbaden. p. 273 - 284 ● CEDEFOP (2019): Global inventory of regional and national qualications frameworks 2019. https://www.cedefop.europa.eu/files/2225_en.pdf ● CEDEFOP (2019): The changing nature and role of vocational education and training in Europe Volume 6: vocationally oriented education and training at higher education levels – expansion and diversification in European countries. Luxembourg: Publications Office of the European Union, 2019. https://www.cedefop.europa.eu/files/5570_en.pdf ● Eichhorst, Werner; Rodríguez-Planas, Núria; Schmidl, Ricarda; Zimmermann, Klaus F. (2012): A Roadmap to Vocational Education and

Training Systems Around the World. Discussion Paper No. 7110 December 2012. https://ftp.iza.org/dp7110.pdf

- Employment and income network (2013): Understanding and analysing vocational education and training systems - An introduction. Swiss Agency for Development and Cooperation. https://www.dcdualvet.org/wp-content/uploads/2013_SDC_Understanding-VET_Concept-Paper-1.pdf
- European Center for the Development of Vocational Training (CEDEFOP) (2014): Innovation in vocational education and training (VET). https://www.cedefop.europa.eu/en/publications-and-resources/country-reports/innovation-in-vet
- Hannan, Damian F., David Raffe, and Emer Smyth (1996): Cross-National Research on School to Work Transitions: An Analytical Framework. Retrieved September 28, 2016, http://www.econ.upf.edu/~montalvo/sec1034/school_work_ocde.pdf.
- Pfeiffer, Sabine (2015): Effects of Industry 4.0 on vocational education and training. http://epub.oeaw.ac.at/ita/ita-manuscript/ita_15_04.pdf
- Organization for Economic Cooperation and Development (OECD) (Pb.) 2010: Learning for Jobs. ISBN 978-92-64-08746-0. https://www.oecd.org/education/skills-beyond-school/Learning%20for%20Jobs%20book.pdf
- Pfeiffer, Sabine (2015): Effects of Industry 4.0 on vocational education and training. http://epub.oeaw.ac.at/ita/ita-manuscript/ita_15_04.pdf
- Pilz, Matthias (2016): Typologies in comparative vocational education: Existing models and a new approach. Typologies in Comparative Vocational Education: Existing Models and a New Approach. Vocations and Learning 9, 295–314 (2016). https://doi.org/10.1007/s12186-016-9154-7
- Rageth, Ladina; Renold, Ursula (2017): The Linkage Between the Education and Employment Systems: Ideal Types of Vocational Education and Training Programs. KOF Working Papers, No. 432, July 2017.
  https://doi.org/10.3929/ethz-b-000171536
- Subrahmanyam, Gita; Law, Bindu (2019): Future of TVET teaching. UNESCO-UNEVOC.
  https://unevoc.unesco.org/pub/trendsmapping_futureoftvetteaching.pdf
- UNEVOC: Innovating technical and vocational education and training. A framework for institutions. Case studies. ISBN: 978-92-3-100415-5. https://unevoc.unesco.org/pub/innovating_tvet_framework.pdf
- UNEVOC: Innovating technical and vocational education and training. A framework for institutions. Case studies. ISBN: 978-92-3-100415-5. https://unevoc.unesco.org/pub/innovating_tvet_framework.pdf
- UNEVOC (2021): TVETipedia Glossary. Vocational education and training (VET)

	https://unevoc.unesco.org/home/TVETipedia+Glossary/filt=all/id=545
Additional Literature	● Bahl, Anke/Dietzen, Agnes (2019) (Eds.): Work-based Learning as a Pathway to Competence-based Education. A UNEVOC Network Contribution. ISBN 978-3-96208-094-5. https://www.bibb.de/dokumente/pdf/BzbB_Bahl_Dietzen_Work-based_learning.pdf ● Greinert, Wolf-Dietrich (2007): The German philosophy of vocational education, at: Vocational Education. International approaches, developments and systems. Edited by Linda Clarke and Christopher Winch, Routledge, London and New York 2007, p. 49 – 61 ● International Labur Organization (ILO) (2020): Top 10 ILO trainings on TVET and Skills Development in 2020. https://www.ilo.org/budapest/WCMS_735475/lang--en/index.htm ● ILO & OECD (2014): Promoting Better Labour Market Outcomes for Youth. Paris, Retrieved December 20, 2016. http://www.g20.utoronto.ca/2014/OECD-ILO-better_outcomes_for_youth.pdf ● ILO (1998): Training Systems: Adjusting to Change. p. 57-83 in World Employment Report 1998-99: Employability in the Global Economy - How Training Matters. Geneva, CH: International Labour Office. ● Lindner, Johannes (2020): Technical and vocational education and training for disadvantaged youth. UNEVOC. ISBN: 978-92-3-100425-4 ● Marhuenda, Fernando; Chisvert-Tarazona María José (Ed.) (2019): (2019). Pedagogical concerns and market demands in VET. Proceedings of the 3rd Crossing Boundaries in VET conference, Vocational Education and Training Network (VETNET). https://doi.org/10.5281/zenodo.2644069PILZ, M. (2017): Vocational Education and Traning in Times of Economic Crisis: Lessons from Around the World. Springer Verlag. ● UNEVOC (2020): Entrepreneurial learningfor TVET institutions. A practical guide. https://unevoc.unesco.org/pub/entrepreneurial_learning_guide_en.pdf
Additional information/ conditions	Due to the higthend interest in the subject matter and the variety of possible angles to approach concepts of Dual and schoolbased VET this course is not based on a single textbook. Instead the receommended literature includes a wide range of textbooks that could be used as reference points interchangeably. Furthermore, presented papers and additional material will be added and brought to the attention of the students to disucss the subject matter based on the newest developments in research and politics. Furthermore, the scientific articles in German will be by demand translated in English for a better understanding the VET context within the seminar.

Content

Weeks	Topics	Literature and other teaching resourses
I	Scientific Theories and fundaments of VET	• Power point slides based on the key topic • Relevant Article in PDF Format • McGrath, Simon; Mulder, Martin; Joy, Papier; Stuart, Rebecca (2018): Handbook of Vocational Education and Training: Developments in the Changing World of Work. DOI: 10.1007/978-3-319-49789-1. ISBN: 978-3-319-49789-1 • UNEVOC (2021): TVETipedia Glossary. Vocational education and training (VET) https://unevoc.unesco.org/home/TVETipedia+Glossary/filt=all/id=545
II	Key characteristics of VET	• Power point slides • Relevant selected Article in PDF Format • discussion of examples with keywords • Choy, Sarojni; Wärvik, Gun-Britt; Lindberg, Viveca (Eds.) (2018): Integration of Vocational Education and Training Experiences: Purposes, Practices and Principles. DOI:10.1007/978-981-10-8857-5. ISBN 978-981-10-8857-5. Volume 29. • OECD (2015): Learning for Jobs. https://www.oecd.org/education/skills-beyond-school/Learning%20for%20Jobs%20book.pdf • employment and income network (2013): Understanding and analysing vocational education and training systems – An introduction. Swiss Agency for Development and Cooperation. https://www.dcdualvet.org/wp-content/uploads/2013_SDC_Understanding-VET_Concept-Paper-1.pdf
III	Structures of VET system – Analysis of diverse VET systems	• Power point slides • Presentation, YouTube-video, group discussion • Eichhorst, Werner; Rodríguez-Planas, Núria; Schmidl, Ricarda; Zimmermann, Klaus F. (2012): A Roadmap to Vocational Education and Training Systems Around the World. Discussion Paper No. 7110 December 2012. https://ftp.iza.org/dp7110.pdf • Pilz, Matthias (2016): Typologies in comparative vocational education: Existing models and a new approach. Typologies in Comparative Vocational Education: Existing Models and a New Approach. Vocations and Learning 9, 295–314 (2016). https://doi.org/10.1007/s12186-016-9154-7
IV	Public-Private-Partnership (PPP)	• Power point slides • Relevant Article in PDF Format • Selection of video units to PPP • Analysis of the structure of the Dual VET system in Germany, group discussion and knowledge transfer • German VET system: https://www.govet.international/en/54885.php

		• BIBB (Pb.) (2011): Vocational Training Regulations and the Process Behind Them. ISBN 978-3-88555-913-9
V	Role of VET institutions	• Power point slides • Relevant Article in PDF Format & selected videos of vocational education at school and company • Presentation, group work, comparison of the role of VET institutions and stakeholders in terms of company-based and school-based VET • Deutscher Industrie- und Handelskammertag (DIHK) (2014): The Dual System. German Vocational education and training (VET). • BIBB (2021): Inter-company vocational training centres (überbetribliche Bildungsstätten) https://www.bibb.de/de/12303.php UNEVOC (2020): Entrepreneurial learningfor TVET institutions. A practical guide. https://unevoc.unesco.org/pub/entrepreneurial_learning_guide_en.pdf • Apprenticeship toolbox (2021): Key features. https://www.apprenticeship-toolbox.eu/ • OECD (2014): OECD Reviews of Vocational Education and Training Skills beyond School. Synthesis Report. DOI: 10.1787/9789264214682-en.
VI	Curriculum standards for learning in VET – Key concepts	• Power point slides • Relevant Article in PDF-format • Presentation, analysis and discussion • Wahba, Moustafa (2013): Competence Standards for Technical and Vocational Education and Training TVET. UNESCO-UNEVOC. • Federal Ministry of Education and Research (2020): The new Vocational Training Act (Berufsbildungsgesetz – BBiG) https://www.govet.international/dokumente/pdf/The_new_Vocational_Training_Act_May2020.pdf • Example: selected ordinance of the Dual vocational education for the occupation Milling machine operator (Training regulation – BIBB /framework curriculum - KMK)
VII	Vocational education at the higher education level – Dual study	• Power point slides • Relevant Article in PDF Format • Presentation, internet research, analysis, discussion
VIII	Professionalization of VET personnel	• Power Point Presentation • Internet research & group discussion • Cedefop (2021): Teachers and trainers' professional development https://www.cedefop.europa.eu/en/events-and-projects/projects/teachers-and-trainers-professional-development
IX	School-to-Work-transition – early orientation for the career path	• Power point slides • Relevant Article in PDF Format • Case study and group discussion • Zentrum für Integration und Bildung - ZIB GmbH (2017): School-to-work transition in Europe and the approach to work-based training. Survey on transition systems in 9 European countries (BG - DE - IT - MT - PT - RO - SE - SLO - TR). ERASMUS+. http://www.workbasedtraining.eu/wp-

		content/uploads/2015/12/OVERVIEW_final.pdf ● Ludwig-Mayerhofer, Wolfgang et al. (2019) : Vocational Education and Training and Transitions into the Labor Market, Edition ZfE, ISSN 2512-0786, Springer VS, Wiesbaden, Vol. 3, pp. 277-323, http://dx.doi.org/10.1007/978-3-658-23162-0_15
X	VET for special target groups	● Power point slides ● Relevant Article in PDF format, documentaries (video) ● Case study, group discussion, presentation, ● European Centre for the Development of Vocational Training (Cedefop) (2016): Leaving education early: putting vocational education and training centre stage. Volume I: investigating causes and extent. ● ILO (2021): Making TVET and skills systems inclusive of persons with disabilities. ● Bagale, Shiba (2016): Gender Equality and Social Inclusion in Technical and Vocation Education and Training Journal of Training and Development, 2016, Volume 2, ISSN: 2392-456X DOI: http://dx.doi.org/10.3126/jtd.v2i0.15435
XI	EQF/NQF - Recognition of VET qualification/job mobility	● Power point slides ● documentary (video), internet research ● Case study, application use ● CEDEFOP (2019): Global inventory of regional and national qualications frameworks 2019. https://www.cedefop.europa.eu/files/2225_en.pdf ● European Commission (2017): European Qualifications Framework – Entry into the labour market (video) https://ec.europa.eu/social/main.jsp?catId=1146&videosId=2855 &furtherVideos=yes&langId=en& ● Deutscher Qualifikationsrahmen für Lebenslange Lernen (2018): German EQF Referencing Report. An example. https://europa.eu/europass/en/reports-referencing-national-qualifications-frameworks-eqf ● Federal Ministry of Education and Research (2021): Recognition in Germany. https://www.anerkennung-in-deutschland.de/html/en/pro/recognition.php
XII	Implementation of VET Development: Research focus: Approach to the System Compatibility	● Power point slides ● Relevant article in PDF format ● Individual/group presentation: Identifying specific challenge of VET and suggesting conditions of success (orientation: changes of world of work or other specific topic on VET system approach to be improved/changed at national or international level) ● Bachmann, Dana-Carmen (2019): EU VET and Adult Learning policies – preparing for the future. EfVET Conference, 25 October 2019 (ppt)
XIII	Implementation of	● Power point slides

	a concept in an VET institutional context - Qualification of trainers and teachers, improvement of training quality: Outlining conceptional ideas and examples	• Relevant Article in PDF Format • Subrahmanyam, Gita; Law, Bindu (2020): Trends Mapping - Future of VET teaching. UNESCO-UNEVOC. • UNESCO-UNEVOC (2020): Promoting quality in TVET using technology. Practical guide. • Pfeiffer, Sabine (2015): Effects of Industry 4.0 on vocational education and training. http://epub.oeaw.ac.at/ita/ita-manuscript/ita_15_04.pdf
XIV	Implementation of VET developments for future	• Keynote presentations to given concepts • Identification of challenges and discussion of own perceived challenges and solving strategies • Presentation of concept ideas and challenges in group discussion
XV	Student feedback	• Discussion and suggestion for improving the seminar design as a part of the evaluation.
Assignment: Conception for the Implementation of a competency-based VET curriculum in times of digitalization		

Module 2: Research Methods and Methodology in VET Education I

Title of the teaching course	Research Methods and Methodology in VET Education I
Author(s) of the Course	Prof. Dr. M. Boehner, H. Tegelbeckers, Assoc. Prof. Rusudan Sanadze
Lecturer(s) of the Course	Prof. Dr. M. Boehner Assoc. Prof. Rusudan Sanadze
Status of the Course	1. Faculty of Psychology and Educational Sciences 2. PhD Program Vocational Education 3. Mandatory 4. English Language Instructed
ECTS	Credits (ECTS): 5 (125 hours) Contact hours throughout semester: 30 hours (Seminars) Students' independent working hours: 85 hours
Prerequisites	• NA
Goals of the teaching course	The aim of this course is to equip students with the ability to get familiar with the common theories, methods and instruments of VET research and the skills to weigh different approaches for the own thesis as well as to apply them to a VET research question
Learning outcomes	Upon completion of the course, the student will be able to: • Comprehend the styles of VET research • Know to differentiate between the quantitative and qualitative research concepts and its application in VET research • Understand the planning and sampling as well as the data analysis and interpretation phases of VET research • Apply research methodology to an own VET research project • Determine the suitable approach to a VET research question • Develop a research plan and instruments and analyze data by using the appropriate statistical tools • Present the findings to an interested audience convincingly
Teaching and Learning Methods	Advance organizer, teacher presentation, fish-bowl discussion, case study, role play, research project and research simulation, poster presentation, peer-to-peer feedback and evaluation, inverted classroom, VET research E-logbook (in different social settings)
Course Assignments and Grading	Midterm assessment: Test – Come up with a research methodology section in a research proposal according to a research problem (situation) presented on test date 30 points for mid-term test (90 minutes).

	26-30 points: The work is performed; The set task is accurately and thoroughly worked out. The research methodology is perfectly developed. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained in the thesis. **20 - 25 points: The work is performed**; The set task is well performed, there is no substantial mistake; There are minor errors in the research methodology. The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing is maintained. **15- 19 points: The work is performed incompletely**: The issue is satisfactorily reported; There are errors in the research methodology. The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style. **9-14 points: The work is performed incompletely;** The material is processed in part; Research methodology is not presented. The student is not sufficiently aware of the material envisaged by the program. There are important shortcomings in maintaining the academic style. **1-8 points: The work is imperfect;** Only separate fragments of the task are processed. Research methodology is not presented. There are important shortcomings in maintaining the academic style. **0 point:** The work is not presented. Final assignment: Developing a small-scale VET research project and implementing planning, sampling, analyzing and disseminating phases as well presenting final research report (including data set and research instruments in annex) (~1,000 words) ● 30 points for final VET presentation on pre-defined topic **0 point:** The report is not made at all; the presentation is not presented; **1-9 points:** The report and the presentation is imperfect; Terminology is not used or is not appropriate; Only separate fragments of the material relevant to the issue are worked out. The presented paper does not reflect the purposes and outcomes, the visual part of the presentation report is unsatisfactory; The student cannot make the presentation of the report and cannot participate in the discussion. **10-15 points :** The report and the presentation is incomplete; Terminology is wrong; The subject matter of the issue is reported in part; The student is insufficiently aware of the basic literature; The significant mistakes are noted in the presentation. **16-20 points:** The report and the presentation is incomplete; The issue is

	satisfactorily reported; Terminology is imperfect; The student is aware of the material provided by the program, but there are minor mistakes. The visual part of the presentation materials is carried out at the appropriate level, the report is independently drafted by the use of computer hardware and relevant software; The student can present the paper, show the competences and participate in the discussions related to the presentation issues, but finds difficulties in mentioning the arguments and defending the own opinions. **21-26 points:** The report and the presentation is complete but shortened; Terminologically arranged; The issue is exhaustively reported; The student is well aware of the material covered by the program; Has applied the basic literature. The presentation is visually well organized. **27-30 points :** The report and the presentation is complete; The issue is accurately and exhaustively reported; Terminology is maintained; The presented work fully demonstrates the set purposes and outcomes, the latest information, data and literature are applied in the work; The student can present the thesis, show the competencies, and participate in the discussion on the presentation thesis, mention arguments and defend own opinions; The visual part of the presentation materials deserves the approval, materials are independently prepared using computer techniques and relevant software, etc. ● 40 points for final VET research report **36-40 points:** The assignment is exhaustive; it covers at least 10 or more sources from the field. Includes well-formulated research questions and hypothesis, timeline and researchable topic is relevant; TSU scientific databases are properly used. **30-35 points:** The author provides a thoughtful synthesis of main methodological approaches of different authors and uses at least 8 sources from the field. However, the author misses presenting the ideas of different authors coherently: RQs and Hypothesis are not derived from literature review. TSU scientific databases are properly used. **25-29 points:** The written assignment is incomplete. The author provides summary of the relevant literature. Only some sources from the field are used. The linkages between the ideas in the paragraphs is weak. RQs and Hypothesis are not well formulated and do not reflect main ideas derived from literature review. TSU scientific databases are used. **18-24 points**: The written assignment is incomplete. Usage of the terminology is faulty and a student fails to bring all parts of the design together in a logical order. Only 1 or 2 sources from the field is used. Writing and organization of the ideas have problems that affect readability. RQs and Hypothesis are not well formulated. TSU scientific databases are not used. **10-17 points:** The assignment only provides main references from the literature. There is no synthesis and only 1 or 2 sources are used. Paper

	organization is poor. RQs and Hypothesis are formulated very poorly. TSU scientific databases are not used. **1-9 points:** The student failed to demonstrate the very basic knowledge. RQs and Hypothesis are not formulated. TSU scientific databases are not used. **0 point:** The assignment is not provided The minimum competence limit for the intermediate assessment is 21 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 20 points.
Basic Literature *The reader is designed according to the basic literature identified in the syllabus. The reader is available to all the students and interested parties*	• Anderson, G. & Arsenault, N. (2005). Fundamentals of Educational Research. London: Falmer. • Boehner, M. (2017). High Quality Teaching and Assessing in TVET. Series on Quality in TVET. Volume 2. Chapter 8. Colombo: TVEC. • Cohen, L., Manion L., & Morrison, K. (2017). Research Methods in Education. Oxford: Routledge Publishers. 8th ed. • Deissinger T. (2014) TVET System Research. In: Zhao Z., Rauner F. (eds) Areas of Vocational Education Research. New Frontiers of Educational Research. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-54224-4_5 • Delice, A. (2010). The Sampling Issues in Quantitative Research, in: Educational Sciences: Theory and Practice, 10, No. 4. pp. 2001-2018. • Field, A.P. (2016). An Adventure in Statistics: The Realty Enigma. London: Sage Edge. • Field, A. P., Miles, J., & Field, Z. (2012). Discovering statistics using R. London: Sage Edge. • Lauglo, J. (2009). Research for TVET Policy Development. In: International Handbook of Education for the Changing World of Work (pp.891-904). https:doi.org/10.1007/978-1-4020-5281-1_60 • Schmidt, F. L., & Hunter, J. E. (1999). Theory testing and measurement error. In: Intelligence, Volume 27, Issue 3, pp. 183-198. • Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S.L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: a primer. Frontiers in public health, 6. • Lodico, M. G.; Spaulding, D. T.; Voegtle, K. H. (2010). Methods in Educational Research: From Theory to Practice. Indinapolis: Jossey-Bass, An Imprint of Wiley. • Muijs, D. (2004). Doing Quantitative Research in Education with SPSS. London: Sage (available at: http://ndl.ethernet.edu.et/bitstream/123456789/79496/1/Quantitative%

	20data%20analysis.pdf) ● Noble, H. & Heale, R. (2019). Triangulation in research, with examples. Queen's University Belfast. http://dx.doi.org/10.1136/ebnurs-2019-103145 ● Rauner, Felix, Maclean, Rupert (2008). Handbook of Technical and Vocational Education and Training Research. Berlin: Springer. ● Rauner F. (2009) Methods of TVET Research. In: Maclean R., Wilson D. (eds) International Handbook of Education for the Changing World of Work. Springer, Dordrecht. https://doi.org/10.1007/978-1-4020-5281-1_97 ● Rothbauer, P. (2008). Triangulation, in: Given, L. (ed.), The SAGE Encyclopedia of Qualitative Research Methods. London: Sage Publications, pp. 892-894. ● Sapsford, R. & Jupp, V. (1996): Data collection and analysis. London: Sage. ● Smagorinsky, P. (2008). The method section as conceptual epicenter in constructing social science research reports, in: Written Communication, pp. 389-411. ● Wallen, N. E. & Fraenkel, J. R. (2011): Educational Research: A Guide To the Process. Mahwah, NJ: Lawrence Erlbaum. ● White, P. (2017). Developing Research Questions. London: Red Globe Press. ● Yates, Lyn (2004). What Does Good Educational Research Look Like?: Situating a Field and Its Practices. Conducting Educational Research. New Yok: McGraw-Hill International. ● Zhao, Zhiqun Rauner, Felix (2014). Areas of Vocational Education. Research. London: Springer. **Online Resources:** University of Liverpool Online Centre for Student Success (2018). Introduction to research methods and methodologies. Access via URL: https://www.youtube.com/watch?v=nv7MOoHMM2k Videobase for "Research Methodology and Research Methods": References for Flipped Classroom: Access via URL: https://www.youtube.com/results?search_query=research+methods+in+education
Additional Literature	● Opie, C. & Brown, D. (2019): Getting Started in Your Educational Research: Design, Data Production and Analysis. London: Sage. ● Creswell, J. W. (2020): Educational Research: Planning, Conducting, and

	Evaluating Quantitative and Qualitative Research. Pearson Education. London: Pearson Education. 6th ed. Further free online resources: ● Aberystwyth University: Introductory into Educational Research: URL: https://www.youtube.com/watch?v=e879VybzGrk ● Simple Steps-based research introduction: URL: https://www.wikihow.com/Conduct-Academic-Research **TVET Data Source:** World TVET Database - Country Profiles (UNESCO-UNEVOC): URL: https://unevoc.unesco.org/home/TVET%20Country%20Profiles **Journals for Peer-Reviewed Research Examples in VET:** *(Free Subscription and/or available online)* ● Career and Technical Education Research (prev. known as Journal of Vocational Education Research) ● European Journal for Open, Distance and E-Learning ● European Journal of Vocational Training (ended in 2010) ● Journal of Applied Research in Workplace E-learning (free access to issues that are older that six month, more recent issues are only available to subscribers) ● Journal of Career and Technical Education (prev. known as Journal of Vocational and Technical Education ● Journal of Industrial Teacher Education ● The International Review of Research in Open and Distance Learning **VET Databases for primary data:** ● ERIC Clearinghouse, Adult Career Vocational Education, US ● VOCED: UNESCO/NCVER international database for technical and vocational education and training research
Additional information/ conditions	Because of a great number of references in the area of educational research and no pre-eminent classical oeuvre, several textbooks and TVET-specific articles are included, while focusing on one comprehensive resource as a guideline for students. Due to the difficult nature of applied research in VET, the lecturer has compiled so-called keywords for each step of the research process, downloadable from a course cloud-based folder as a teaching resource. In general, students are asked to conduct their own small-scale VET research project, consistently throughout the course, to make the content, as

	prevalent in vocational pedagogy, more palatable and applicable in their own doctoral thesis.

Content of the teaching course

Weeks	Topics	Literature and other teaching resources
I	Research Process Components in TVET and Research Methodology: Overview VET Research	• Powerpoint comprehensive presentation: How to conduct a research project in TVET, step by step • Video: Research Methodology • Background Article in PDF Format: Research Methodology • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education • List of relevant VET research topics • Course Materials and Keywords (course cloud): https://drive.google.com/drive/folders/1MfhdZgz2xWQeIKvGWcH3e9XilW9k39CJ?usp=sharing Gekürzter Link: https://t1p.de/i21e
II	VET Research Problem and Research Questions	• Keywords 0, 1 and 1A: Abstract and Research Questions, Research Problem, Research Statement, and Research Questions See: https://t1p.de/i21e • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education, esp. Chapter 1 • White, P. (2017), Developing Research Questions, esp. Chapter 1, pp. 23-33. (available at URL: https://www.redglobepress.com/resources/sample-chapters/9781137490476_sample.pdf • Video Research Questions, hints from Author P. White: https://www.youtube.com/watch?v=21qiGXIO70I
III	Relevant VET Research Questions and Hypotheses and Operationalization	• Keywords 1 B, 2 and 3: Research Questions and Hypothesis, Operationalization See: https://t1p.de/i21e • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education, esp. Chapter 1 • Pilz, M. (2017): Vocational Education and Training in Times of Economic Crisis: Lessons from Around the World. Springer International Publishing. AG 2017. (for relevant research problems in VET) • Video Education Hub: https://www.youtube.com/watch?v=vJgcae2ziOM

IV	VET Research Methodology and Methods: The Research Design – quantitative, qualitative and mixed approaches (triangulation) Part 1: focal point quantitative research	• Keywords 4: Methodology and Methods • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education, esp. Part 4, Chapter 15-21 • Noble, H. & Heale, R. (2019). Triangulation in research, with examples. Queen's University Belfast. http://dx.doi.org/10.1136/ebnurs-2019-103145 • Teo, T. (2013). Handbook of Quantitative Methods for Educational Research. Rotterdam: Sense, esp. Classical Test Theory, pp. 31-44 and Psychometrics (see: https://t1p.de/0a4j) • Brown, G.T.L. Doctoral Education in Quantitative Research Methods: Some Thoughts about Preparing Future scholars. University of Auckland. https://doi.org/10.3389/fams.2017.00025 • Video: Media Hub University of Nebraska (2016): https://mediahub.unl.edu/media/5714
V	VET Research Methodology and Methods: The Research Design – quantitative, qualitative and mixed approaches (triangulation) Part 2. focal point qualitative research	• Keywords 4: Methodology and Methods • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education, esp. Part 4, Chapter 15-21 • Oliver-Hoyo, M. & Allen, M. M. (2006). The Use of Triangulation Methods in Qualitative Educational Research, in: Journal of College Science Teaching, pp. 42-47. (see: Course Material) • O'Donoghue, T. & Punch, K. (2003). Qualitative educational research in action: Doing and reflecting. London: RoutledgeFalmer, esp. Chapter 1 (for excerpts, see: https://t1p.de/3roe) • Delice, A. (2010). The Sampling Issues in Quantitative Research, in: Educational Sciences: Theory and Practice, 10, No. 4. pp. 2001-2018. (see: https://files.eric.ed.gov/fulltext/EJ919871.pdf) • Video: Ortlieb, V. (2021). 5 Types of Qualitative Research Design: https://www.youtube.com/watch?v=H45UCgcfLC8 combined with, Grad coach (2021): https://www.youtube.com/watch?v=j9A3ceOBihM
VI	Data Collection and Data Analysis in TVET Research & Statistical Concepts as well as Practical Aspects (Quality of Data / Quality Criteria)	• Keywords 5: Data Collection and Analysis • Relevant Course Reference Book: Cohen, L. et al (2017): Research Methods in Education, esp. Part 4, Chapter 4 and 6 • Anderson, G. & Arsenault, N. (2005). Fundamentals of

		Educational Research. London: Falmer, esp. Part 3 "Data Collection) (available at: https://t1p.de/ky01) ● Sapsford, R. & Jupp, V. (1996): Data collection and analysis. London: Sage (excerpts at: https://t1p.de/ewe6) ● Video Example UNICEF: Data Collection & Analysis (2014): https://www.youtube.com/watch?v=HFGVJJMDo4I
VII	Research Reports in VET	● Keywords 6: Research Report ● APA example for Research Report (see Course Material) ● Smagorinsky, P. (2008). The method section as conceptual epicenter in constructing social science research reports, in: Written Communication, pp. 389-411. DOI: 10.1177/0741088308317815 (available at: http://jolle.coe.uga.edu/wp-content/uploads/2015/02/WC2008.pdf) ● Draugalis, J. L. R., Coons, S. J. & Plaza, C. M. (2008), Best Practices for Survey Research Reports: A Synopsis for Authors and Reviewers, in: American Journal of Pharmaceutical Education September 2008, 72 (1) 11. DOI: https://doi.org/10.5688/aj720111 (available at: https://www.ajpe.org/content/72/1/11.short) ● Video Griffith University:Guide to Writing Research Reports: https://t1p.de/v7x6
VIII	Statistical Solutions for Practical Problems in R or SPSS – Presentation of Results and Interpretation of Data	● Keywords 7: Basic Statistics ● Field, A. P., Miles, J., & Field, Z. (2012). Discovering statistics using R. London: Sage Edge. ● Muijs, D. (2004). Doing Quantitative Research in Education with SPSS. London: Sage (available at: http://ndl.ethernet.edu.et/bitstream/123456789/79496/1/Quantitative%20data%20analysis.pdf) ● Video Sample for Analyses in Statistics: https://t1p.de/gvup
IX	Midterm Exam	● Written Test: Methodology Section for Research Proposal
X - XV	VET Research Project Presentation Forum	● Powerpoint slides ● Poster board presentation ● Research Reports ● Statistical Annexes ● Handouts

		• Evaluation Forms
Final Exam		

Module 3: Research Methods and Methodology in VET Education II

Title of the teaching course	Research Methods and Methodology in VET Education II
Author(s) of the Course	Prof. Dr. Roland Happ, Ines Rüter M.Sc., Assoc. Prof. Rusudan Sanadze
Lecturer(s) of the Course	Prof. Dr. M. Boehner Assoc. Prof. Rusudan Sanadze
Status of the Course	1. Faculty of Psychology and Educational Sciences
	2. PhD Program Vocational Education
	3. Mandatory
	4. English Language Instructed
ECTS	Credits (ECTS): 5 (155 hours) Contact hours throughout semester: 30 h. (Seminars) Students' independent working hours: 125 h.
Prerequisites	Students need to have previously taken the following course: - Vocational Education Research Methods I
Goals of the teaching course	The aim of this course is to reinforce basic research methods and equip students with further advanced quantitative and qualitative methods in order to apply them to a current research example. We will apply the research methods practically using real data sets with the software programs SPSS (for quantitative analysis) and MAXQDA (for qualitative analysis).
Learning outcomes	Upon completion of the course, the student will be able to: - Know the procedure of a research process - Know a variety of quantitative and qualitative research methods - Understand the dependence of the choice of research method on the research question - Develop research questions and the appropriate method - Apply methods to a current research topic using a statistics software - Evaluate critically the application of the methods
Teaching and learning methods	Teacher and students' presentation, discussion, various social formats
Course Assignments and grading	Final assignment: - Developing a seminar session including presentation and work phase for the students - All participants are asked to prepare a short presentation on a research method. This presentation will lead into a small tutorial. The lecturers will add information to this presentation and to the exercise (if necessary).

	- Participants will then address a specific issue in a 15-page essay. This essay will also be evaluated. - 30 points oral presentation on predefined topic **27-30 points:** The presented work fully demonstrates the set purposes and outcomes, the latest information, data and literature are applied in the work; The student can present the paper, show the competencies, and participate in the discussion on the presentation thesis, mention arguments and defend own opinions; The visual part of the presentation materials deserves the approval, materials are independently prepared using computer techniques and relevant software, etc. **21-26 points:** The methodological approach is exhaustively reported; The student is well aware of the material covered by the program; Has applied the basic literature. The presentation is visually well organized. **15-20 points:** The presentation is incomplete; The issue is satisfactorily reported; Terminology is imperfect; The student is aware of the material provided by the program, but there are minor mistakes. The visual part of the presentation materials is carried out at the appropriate level, the report is independently drafted by the use of computer hardware and relevant software; The student can present the paper, show the competences and participate in the discussions related to the presentation issues, but finds difficulties in mentioning the arguments and defending the own opinions. **10-14 points:** The presentation is incomplete; Terminology is wrong; The subject matter of the issue is reported in part; The student is insufficiently aware of the basic literature; The significant mistakes are noted in the presentation. **1-9 points:** The presentation is imperfect; Terminology is not used or is not appropriate; Only separate fragments of the material relevant to the issue are worked out. The presented paper does not reflect the purposes and outcomes, the visual part of the presentation report is unsatisfactory; The student cannot make the presentation of the report and cannot participate in the discussion. **0 point:** The presentation is not made at all; the presentation is not presented; - Midterm exam - 30 Activity- based evaluation; 3 points per activity (10 tasks) **3 points: The work is performed**; The set task is accurately and thoroughly worked out. The student demonstrates thorough understanding of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained.

	2.5 points: The work is performed; The set task is well performed, there is no substantial mistake; The student demonstrates good understanding material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing/discussion is maintained. **2 points: The work is performed incompletely**; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style. 1 **point: The work is performed incompletely**; The material is processed in part; The student is not sufficiently aware of by the program. There are important shortcomings in maintaining the academic style. **0 point** – The work is not presented. - Final exam - 40 points written essay **36-40 points:** The essay is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. TSU scientific online databases have been carefully studied. **30-35 points:** The essay is performed; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. TSU scientific online databases have been worked out. **22-29 points:** The essay is performed incompletely; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. TSU scientific electronic databases are not sufficiently worked out. **15-21 points:** The essay is performed incompletely; The material is processed in part; The student is not sufficiently aware of by the program. TSU scientific databases are not worked out. There are important shortcomings in maintaining the academic style. **1-14 points:** The essay is imperfect; Only separate fragments of the task are processed. TSU scientific online databases are not used. **0 point:** The assignment is not provided The minimum competence limit for the intermediate assessment is 21

	points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 20 points
Compulsory literature *The reader is designed according to the basic literature identified in the syllabus. The reader is available to all the students and interested parties*	Bryman, A. (2016). *Social research methods*. Oxford university press. Charters, E. (2003). The use of think-aloud methods in qualitative research an introduction to think-aloud methods. *Brock Education Journal*, *12*(2). Cohen, L., Manion, L. & Morrison, K. (2017). *Research Methods in Education*. Routledge. Denis, D. J. (2018). *SPSS data analysis for univariate, bivariate, and multivariate statistics*. John Wiley & Sons. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. Kuckartz, U., & Rädiker, S. (2019). *Analyzing qualitative data with MAXQDA*. Switzerland: Springer International Publishing. Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (Vol. 42). John Wiley & Sons. Maruster, L. (Ed.). (2013). *Qualitative research methods*. Sage. Mayring, P. (2004). Qualitative content analysis. *A companion to qualitative research*, *1*(2), 159-176. Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass. Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS.* Sage Roller, M. R., Lavrakas, P. J. (2015). Applied Qualitative Research Design: A Total Quality Framework Approach. Guilford Publications. Teo, T. (2013). *Handbook of Quantitative Methods for Educational Research*. Sense. Walstad, W. B., & Rebeck, K. (2016). Test of Financial Literacy: Examiner's Manual. *Council for Economic Education, New York*. Weinberg, S. L., & Abramowitz, S. K. (2008). *Statistics using SPSS: An integrative approach*. Cambridge University Press.
Supplementary literature	
Additional information/ conditions	The course content will be based on the Test of Financial Literacy (TFL). The TFL was designed by the US Council for Economic Education to assess students' understanding of personal finance (Walstad & Rebeck, 2017). Financial Literacy describes the ability of a person to independently plan, implement and control financial decisions (Aprea & Wuttke, 2016, p. 402). Atkinson and Messy (2012) divide the concept of financial literacy into three dimensions: knowledge, behavior and attitude. Financial knowledge is becoming increasingly important in today's global word. A high knowledge encourages people to make financial decisions as consumers, savers or

	investors. Financial Literacy takes meanwhile a significant part in research. Thus, financial literacy is considered in light of, for example, gender or migration background (see Atkinson & Messy, 2012; Happ & Förster, 2019; Lusardi & Mitchell, 2014). For more information on the TFL (Walstad & Rebeck, 2017) and the test adaptation of the test for the German context, see Förster, Happ & Molerov (2017). The existing dataset includes the TFL survey in Germany with over 1,000 probands. Likewise, each course participant will complete the questionnaire, so the results of the course participants will also be added to the data set for further calculations. Aprea, C., & Wuttke, E. (2016). Financial literacy of adolescents and young adults: Setting the course for a competence-oriented assessment instrument. In *International handbook of financial literacy* (pp. 397-414). Springer, Singapore. Atkinson, A., & Messy, F. A. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study. Förster, M., Happ, R., & Molerov, D. (2017). Using the US test of financial literacy in Germany – adaptation and validation. *The Journal of Economic Education*, *48*(2), 123-135. Happ, R., & Förster, M. (2019). The relationship between migration background and knowledge and understanding of personal finance of young adults in Germany. *International Review of Economics Education*, *30*, 100141. Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of economic literature*, *52*(1), 5-44. Walstad, W. B., & Rebeck, K. (2017). The test of financial literacy: Development and measurement characteristics. *The Journal of Economic Education*, *48*(2), 113-122.

Content of the teaching course

Weeks	Topics (lecture/working group/practical, lab work, etc.)	Literature and other teaching resources
I	- Introduction quantitative research methods - Test and questionnaire construction - Quality criteria of empirical research - Individual implementation of the TFL questionnaire - Entering Data in SPSS	Bryman, A. (2016). *Social research methods*. Oxford university press. P. 148-169. Bryman, A. (2016). *Social research methods*. Oxford university press. PP. 352-358. Cohen, L., Manion, L. & Morrison, K. (2017). *Research Methods in Education.* Routledge. Denis, D. J. (2018). *SPSS data analysis for univariate, bivariate, and multivariate statistics*. John Wiley & Sons. PP. 9-12. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 135-173. Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS*. Sage Teo, T. (2013). *Handbook of Quantitative Methods for Educational Research*. Sense.
II	- Test Adaption - Using the US TFL for adaption into different languages	Förster, M., Happ, R., & Molerov, D. (2017). Using the US test of financial literacy in Germany—adaptation and validation. *The Journal of Economic Education*, *48*(2), 123-135.
III	- Descriptive Statistics - Correlations of categorical variables - Using the socio-demographic part of the questionnaire for calculations in SPSS	Denis, D. J. (2018). *SPSS data analysis for univariate, bivariate, and multivariate statistics*. John Wiley & Sons. PP. 10, 19-27, 44-52; Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 177-223. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 333-368.
IV	- Inductive statistics - Mean value testes and test for normal distribution - Calculation and histogram generation of the TFL score in SPSS	Denis, D. J. (2018). *SPSS data analysis for univariate, bivariate, and multivariate statistics*. John Wiley & Sons. P. 57 Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (Vol. 42). John Wiley & Sons.
V	- Mean comparisons - Analysis of variance - Based on, for example, differences in the TFL mean score between women and men	Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 437-480; 519-570. Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (Vol. 42). John Wiley & Sons. PP. 231-278.
VI	- Change measurement using a pre- and post-test of the TFL	Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 649-701.

	- Examination of the changes in the TFL score	Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (Vol. 42). John Wiley & Sons. PP. 183-218.
VII	- Correlation analysis and multiple linear regression on measurement of different factors (gender, age, grade) on the score in the TFL	Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 369-435. Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (Vol. 42). John Wiley & Sons. PP. 401-423.
VIII	- Discriminant and cluster analysis based on the TFL	Teo, T. (2013). *Handbook of Quantitative Methods for Educational Research*. Sense. PP. 517-550.
Midterm		
IX	- Exploratory factor analysis and reliability analysis based on the items in the TFL	Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE. PP. 777-832.
X	- Introduction qualitative research methods - Presentation of the qualitative research project "Identifying barriers to understanding economic concepts from the perspective of young adults with migrant background" - Introduction to the software MAXQDA	Kuckartz, U., & Rädiker, S. (2019). *Analyzing qualitative data with MAXQDA*. Switzerland: Springer International Publishing. Maruster, L. (Ed.). (2013). *Qualitative research methods*. Sage.
XI	- Expert Interviews / In-Depth Interviews - Questionnaire Guide development based on the project of identifying barriers - Evaluation methods	Hopf, C. (2004). Qualitative Interviews: An Overview. In U. Flick, E. v. Kardorff & I. Steinker (Eds.), *A Companion to Qualitative Research* (pp. 203-208). Cambridge. Kuckartz, U., & Rädiker, S. (2019). *Analyzing qualitative data with MAXQDA*. Switzerland: Springer International Publishing. PP. 41-49. Mayring, P. (2004). Qualitative content analysis. *A companion to qualitative research*, *1*(2). Roller, M. R., Lavrakas, P. J. (2015). *Applied Qualitative Research Design: A Total Quality Framework Approach*. Guilford Publications. PP. 50-98.
XII	- Think out Loud Interviews - Questionnaire Guide development - Evaluation methods	Charters, E. (2003). The use of think-aloud methods in qualitative research an introduction to think-aloud methods. *Brock Education Journal*, *12*(2).
XIII	- Group Discussion as possible further	Kuckartz, U., & Rädiker, S. (2019). *Analyzing qualitative data with MAXQDA*.

	development of the research project - Group Discussion as possible method to explore reasons for barriers to understanding economics	Switzerland: Springer International Publishing. PP. 201-217. Roller, M. R., Lavrakas, P. J. (2015). *Applied Qualitative Research Design: A Total Quality Framework Approach*. Guilford Publications. PP. 104-165
XIV	- Case Study - Further qualitative research methods	Maruster, L. (Ed.). (2013). *Qualitative research methods*. Sage. PP. 359-497. Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass. Roller, M. R., Lavrakas, P. J. (2015). *Applied Qualitative Research Design: A Total Quality Framework Approach.* Guilford Publications. PP. 287-327.
XV	Wrap Up	
Final exam		

Module 4: Assistanship

Name	Assistantship to the professor
The author of the course	Asoc. Prof. Ivane Mindadze; Asoc. Prof. Zakaria Kitiashvili
Lecturer/Lecturers	First name, last name: Asoc. Prof. Ivane Mindadze; Asoc. Prof. Zakaria Kitiashvili Place of work: Ivane Javakhishvili Tbilisi State University, Department of Educational Sciences, Faculty of Psychology and Educational Sciences *Student consultations are appointed by agreement, in accordance with the table published in the department.* Phone: +995577979379 *Student consultations are appointed by agreement, in accordance with the table published in the department.*
Course status	**Mandatory** Faculties: Ivane Javakhishvili Tbilisi State University, Faculty of Psychology and Educational Sciences, Department of Educational Sciences;
ECTS	5 Credits, total 125 hours **between them:** Contact with doctoral students - 15 hours, periodic consultations with the scientific supervisor and presentation of current materials - 7 hours; Total: 22 hours plus independent work of a doctoral student - 103 hours. **between them:** Organization of lectures, preparation of lectures and educational materials - 45 hours, work on the syllabus - 10 hours; work on the modification of the curriculum and the future plan of its development - 15 hours; Correction of students' intermediate and final papers - 15 hours, Preparation and presentation of portfolio and presentation – 18 hours
Prerequisites for admission to the study course	*without prerequisites*
Objectives of the training course	Purpose of the course is: Doctoral student formation to ensure activity readiness for teaching and a comprehensive understanding of the scientific as well as higher education debate, learning and teaching theories in practice, Piloting and experiencing content along the curriculum and syllabus outline, training on educational materials to reinforce content and applied didactical understanding.
learning outcomes	**Knowledge and understanding** ➢establishes the forms of organization of the educational process;

	➢modifies problematic and topical issues in the field of pedagogy (didactics) as needed ➢adapting to the new approaches of the existing system of teaching in the higher education space, the doctoral student formulates, collects/assembles and classifies the main trends of its development in a new way . **Ability** ➢creates a map of the student-oriented learning process, combines theoretical and practical learning materials and integrates them into the syllabus and curriculum; ➢Critically analyses the new, complex and contradictory field of pedagogy and related fields, constructs ideas and different approaches ➢PhD student rearranges work in the group as needed, combines and arranges discussion issues according to teams; ➢communicates in the same way with different types of students, changes approaches to the audience in different situations, initiates incentives/motivations to work with the group to achieve the set goal, ➢student creates an educational environment and conducts lectures to modern academic requirements ➢The lecture/seminar conducted by him or her focuses on the highly developed doctoral student skills-based creativity. **Responsibility and autonomy** ➢ The student articulates the right questions about the issue, confirms the right answers and approaches further enquiries with arguments, while the free opinion and freedom of expression of the students is completely protected and shared under the conditions of the lecturer's facilitation of the process and academic honesty. ➢ Creates such a system of values that controls and influences the behaviour of a person (student) to be comprehensive, consistent, predictable and most importantly specifically tailored to each student.
Teaching and learning methods	**Discussion / Debate ; Problem based Learning (PBL) Inductive method;Deductive method ;Demonstration (visibility) method**
Assessment system (forms , components , methods and criteria)	The knowledge of doctoral students will be assessed taking into account the following assessment forms: **Intermediate assessment A** **Final exam.** The sum of points of these forms is 100 points. between them: ❖ **Intermediate assessment A** – maxium 60 points; ❖ **Final exam** - maximum 40 points.

Ph.D. Student, Assisting Intermediate in order to receive points, he submits to the scientific supervisor/author of the study course in advance the modified versions of the syllabus of the specific study course and the corresponding curriculum, which is evaluated by the supervisor/author of the study course / max. with 20 points (syllabus 10 points, curriculum 10 points),

Besides,
conducts a demonstration lecture, which is evaluated by the doctoral student's scientific supervisor /author of the study course (max . 30 points a) and consultant (in the field of pedagogy) (max. 10 points).

Final assessment : Methodology:
The final assessment of the doctoral student is based on the format of his/her portfolio presentation with the appropriate presentation **(maximum 40 points) .** Rate It is done by a specially created commission in the department, which may include the head of the program, the scientific supervisor of the doctoral student and specialists in the field.

Intermediate (60 points) assessment components and criteria for assisting a doctoral student:

The training course - max. 10 points with the following criteria:

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
The format of the syllabus is not drawn up Responds to university regulations for syllabus development,			
The purpose and tasks of the course are fully described and fully correspond to the results,			
Learning and teaching strategies provide access to learning outcomes,			
The student evaluation system is clear and transparent			
The latest educational material accessible to students is used; The doctoral student's creativity is evident in the planning of the syllabus;			
Total maximum	**10 points**		

Modified curriculum – max. 10 points

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
Weaknesses and strengths of curriculum content convincing represented by logic,			
Relevant comments are made on curriculum development strategies, risks of failure;			
Outlines of several new training courses are presented.			
Analogues and its analysis are correctly selected			
The doctoral student is distinguished by creative approaches to the presented issues and accordingly creates new, innovative approaches to the development of the curriculum;			
Total maximum	**10 points**		

Evaluation of the lecture by the scientific supervisor - max. 30 points from here

Doctoral student's professionalism and scientific apparatus - max. 5 points

5 points: the doctoral student fully demonstrates the qualities of professionalism, demonstrates good knowledge of the lecture and related topics, makes his and his students' arguments acceptable to the audience during the discussion, formulates competent conclusions, speaks with sound scientific terminology and offers relevant explanations to the listeners. Pre -planned teaching and assessment strategies for the lecture serve the intended purpose. Here, he successfully adapts to the unexpected situation during the lecture;

4 points: The doctoral candidate demonstrates the qualities of professionalism, demonstrates good knowledge of the lecture and its related topics, convinces and makes his/her own arguments acceptable to the audience, formulates competent conclusions, speaks with proper scientific terminology and offers appropriate explanations to the audience. Pre-planned teaching and assessment strategies for the lecture serve the intended purpose;

	3 points: the doctoral student shows the qualities of professionalism, shows good knowledge about the lecture topic, makes the arguments of the students acceptable to the audience during the discussion, however, he does not use his own opinions. He speaks with correct scientific terminology, although in some cases the relevant definitions are doubtful. Pre-planned teaching and evaluation strategies for the lecture cannot fully serve the intended purpose; **2 points: the** doctoral candidate does not fully demonstrate the qualities of professionalism, reveals superficial knowledge about the lecture topic; During discussion, sometimes arguments are not clear to the audience, argumentative opinions are not visible. Speech is flawed in terms of scientific terminology; There is no logic, the corresponding explanations are doubtful. almost does not achieve the goal set by the pre-planned teaching and assessment strategies for the lecture; **1 point:** Visible The dilettantism of a doctoral student. Knowledge about the lecture topic is of poor quality; Arguments are not clear to the audience during the discussion, the speech is not of a scientific level, it is full of errors; There is no logic, the corresponding explanations are doubtful. does not achieve the goal set by the pre-planned teaching and evaluation strategies for the lecture; **0 points:** Does not meet the above criteria **Creativity - max. 5 points** **5 points:** the doctoral candidate fully demonstrates a creative approach to the learning process; the teaching and assessment strategies he plans are reworked and presented in a way that takes into account the individual and intellectual characteristics of a specific audience; In addition, he freely adapts and manages changing situations with his creative approaches; **4 points:** the doctoral student reveals a creative approach to the learning process; his planned teaching and assessment strategies are reworked and presented as his work; In addition, can adapt and manage changing situations with creative approaches; **3 points:** the doctoral student has difficulty in creative approaches to the learning process; the teaching and evaluation strategies he plans are saturated with theory and seem less likely; In addition, it is difficult to adapt and manage changing situations; **2 points:** the doctoral student has almost no creative approaches to the learning process; the teaching and evaluation strategies he plans are

	saturated with theory and hardly seem to be achieved; it is difficult to adapt to changing situations and, accordingly, to manage the process; **1 point:** the doctoral student has almost no creative approaches to the learning process; the teaching and assessment strategies he plans are saturated with theory and hardly seem to have been achieved; unable to adapt to changing situations and therefore unable to manage the process; **0 points:** does not meet the above criteria **teaching strategies and the effectiveness of their use - max. 10 points** **10 points: The** doctoral student demonstrates a complete mastery of teaching strategies , which is reflected in the variety and effectiveness of their use in the lecture. They are completely matched with the lecture topic and the audience, which is reflected in the relevance of the purpose and results of the lecture; **9 points: The** doctoral candidate demonstrates knowledge of teaching strategies . Which is reflected in the diversity and effectiveness of their use in lectures. They are well matched to the lecture topic and audience, which is reflected in the relevance of the purpose and results of the lecture; **8 points:** PhD student in general Demonstrates knowledge of teaching strategies , which is expressed in the variety and effectiveness of their use in lectures. Almost all of them are matched with the lecture topic and audience, which is reflected in the relevance of the purpose and results of the lecture; **7 points:** PhD student in general Demonstrates knowledge of teaching strategies , which is expressed in the variety and effectiveness of their use in lectures. Almost all of them are matched with the lecture topic and audience, which is reflected in the relevance of the purpose and results of the lecture; **6 points:** the doctoral student partially demonstrates knowledge of teaching strategies , which is expressed in the diversity of their use in the lecture. However, their matching with lecture topics and audience is questionable; Therefore, the purpose of the lecture does not fully correspond to the result; **5 points:** The doctoral student partially demonstrates knowledge of teaching strategies , which is expressed in the diversity of their use in

	the lecture. There is a flaw in their matching with the lecture topics and the audience; Therefore, the purpose of the lecture does not fully correspond to the result; **4 points: The** doctoral student does not fully master the teaching strategies, because it is felt that they are rarely used in the lecture. When using them, sometimes the lecture topic and audience are not taken into account; Accordingly, the purpose of the lecture is partially consistent with the outcome; **3 points: The** doctoral student does not fully master the teaching strategies, because it is felt that they are rarely used in the lecture. When using them, lecture topics and audience are often not taken into account; In contrast, the purpose of the lecture is hardly consistent with the outcome; **2 points:** Ph.D. in mastery of learning strategies. The course of its learning process is mainly limited to lectures and does not include student engagement strategies. The purpose and result of the lecture are not consistent with each other; **1 point:** PhD student Dilettante in owning learning strategies. The course of its learning process is limited to monotonous lectures and strategies for student engagement are not considered. The purpose and result of the lecture are not consistent with each other; **0 points: the PhD candidate does not meet** any of the above criteria. **Audience management style - max. 5 points** **5 points: The management of the** audience by the doctoral student fully meets the standards of the democratic style of management. The rights of the students to express and take into account their free opinion are fully protected under the conditions of healthy management of the process by the lecturer; **4 points: The management of the** audience by the doctoral student mainly meets the standards of the democratic style of management. The rights of students to express and take into account the free opinion of the students are protected under the conditions of healthy management of the process by the lecturer, however, the lecturer sometimes uses an authoritarian style of management for the complete management of the process; **3 points: The management** of the audience by the doctoral student almost meets the standards of the democratic style of management. However, the rights of the students to express and take into account the free opinion of the students in the conditions of healthy

	management of the process by the lecturer, for the complete management of the process, the lecturer not infrequently uses an authoritarian style of management; **2 points: The management** of the audience by the doctoral student generally does not meet the standards of the democratic style of management, where the rights of the students to express and take into account the free opinion should be taken into account under the conditions of the healthy management of the process by the lecturer. The lecturer not infrequently uses an authoritarian and liberal management style; **1 point: The management** of the audience by the doctoral student does not meet the standards of the democratic style of management. Where the rights of the students to express and take into account the free opinion should be taken into account in the conditions of the healthy management of the process by the lecturer. The lecturer mainly uses the authoritarian and liberal management style to manage the process; **0 point:** The PhD candidate does not meet the above criteria. **Student assessment strategies – max. 5 points** **5 points: The** doctoral student uses a variety of assessment strategies in the lecture, appropriate to the lecture topic, audience and specific situation. Its assessments are clear and transparent, including both quantitative and formative assessments; **4 points: The** doctoral candidate uses a variety of assessment strategies in the lecture, appropriate to the lecture topic, audience and specific situation. Its evaluations are clear and transparent, however, they include only quantitative evaluations; **3 points: The** doctoral student uses assessment strategies in the lecture that are appropriate to the teaching strategies, but not very diverse. Sometimes the clarity and transparency of the evaluations are doubtful; includes only quantitative assessments; **2 points:** the evaluation system used by the doctoral student in the lecture is ambiguous, the clarity and transparency of the evaluations are doubtful; No relevant comments; includes only quantitative assessments; **1 point:** the evaluation system used by the doctoral student in the lecture is ambiguous, the clarity and transparency of the evaluations is almost invisible; Non-commentary, quantitative assessments are used; **0 point: T**he content of the topic does not meet the above criteria

Pedagogy (consultant) - max. 10 points

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
PhD candidate fully owns the audience,			
communicates equally with different types of students, is completely adequate in different situations,			
Demonstrates leadership qualities.			
demonstrates "seeing" and consideration of physical, mental, psychological-social skills in students,			
Actively leads work in the group and reaches the set goal to the end . Ability to actively influence the group			
Total maximum	**10 points**		

Total: Max. 60 points

The maximum score of the final (presentation) evaluation by the commission members is 40. The doctoral candidate will submit the report of the work performed at the presentation along with the relevant documentation; 25-30 minutes are intended for this .

The presentation is evaluated based on the following components and criteria:

Portfolio (interim assessments, syllabus, modified curriculum, student writings, self-evaluation) **– max. 10 points**

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
The requested documentation is fully submitted,			
The syllabus and modified curriculum are accompanied by appropriate assessments;			
Students' midterm and final			

	exam papers with graded scores and appropriate comments are in order			
	The doctoral student's self-assessment shows his strengths and weaknesses as an assistant			
	The strategies for the further development of the doctoral student are visible ;			
	Total maximum	**10 points**		

Teaching and assessment strategies – max. 10 points

Criteria	**Fully corresponds to 2 St**	**partially corresponds to 1 st**	**Does not match 0**
From the presentation, the syllabus and the evaluation of the students' writings, it can be seen that the PhD candidate uses a variety of teaching and assessment strategies.			
Teaching strategies are adapted to the age, individual and intellectual characteristics of students.			
quantitative and formative evaluations are used, evaluation rubrics are clear and transparent,			
variety of assessment dimensions are used : (format-why? formal-how, when? product, process-what? continuous, periodic-when, standardized, real-how? internal, external-who? norm-oriented, criterion-oriented - Why? What to do with the results?)			
The teaching methodology determines the expected results			
Total maximum	**10 points**		

Technical-organizational side of the presentation - max. 10 points

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
Visual material designed and presented perfectly,			
Uses modern methods of presentation			
A high level of use of information technology can be seen,			
The presentation is interesting and understandable			
The regulations are respected.			
Total maximum	**10 points**		

Answering the questions - max. 10 points

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
doctoral student are complete and exhaustive,			
Speaks correctly, following and using scientific terminology			
Competent in defending and sharing one's opinion			
Freely engages in discussion			
Accepts and shares healthy criticism			
Total maximum	**10 points**		

➢

Total: 40 points

The final score of assistance is derived from the arithmetical sum of the intermediate evaluation and the average score of the commission members.

Total: 100 points

The minimum competence limit for the intermediate assessment is 18 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment.

	The minimum competence limit for the final assessment is at least 20 points. Without passing the minimum threshold of the final exam, the intermediate and final evaluation marks of the doctoral student will no longer be calculated and will be signed (F) . **evaluation system provides for :** a) five facial positive To evaluate : (A) Friadi - 91-100 points of assessment ; (B) very Good - maximum 81-90 evaluation points ; (C) good - maximum 71-80 points of assessment ; (D) Satisfactory - maximum 61-70 evaluation points ; (E) Sufficient – maximum 51-60 points of assessment . b) two facial negative To evaluate: 1) (FX) Passed - maximum 41-50 points of assessment, that is means that to the student to pass more working He needs and is given independent by working additionally on the exam once exit the right 2) (F) cut - maximum 40 evaluation points and less than that means that _ of a student by conducted work no is enough and him the subject anew has to be studied. of FX receiving in case higher educational institution is obliged additional exam to appoint final of the exam results from Revelation not less than 5 days. **by a Ph.D Representing before the commission documentation list and samples** **representable Documentation:** **doctoral candidate's portfolio** (a selected set of individual work, over a certain period of time, to achieve a specific goal), which includes: 1. The individual of the doctoral student work Plan S **(see Appendix 1);** 2. with an evaluation corresponding to the syllabus of the training course developed by the doctoral candidate ; 3. Curriculum modified by the doctoral student with appropriate assessment; 4. Students' writings, corrected by a doctoral student; 5. Doctoral student's self-evaluation **(see Appendix 2);** 6. The report of the doctoral student was conducted of work About **(see Appendix 3**) and a presentation on the screen (recorded on a flash or disk that remains in the department). The minimum competence limit for the intermediate assessment is 21 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 20 points
Optional literature	Asatiani , A., (2008), *High School Pedagogy,* Tbilisi: Griffon.

and other study material	Basiladze, I., Chokhonelidze, N., Kostava, N. Kobuladze, N. (2017). Pedagogical technologies of teaching and learning and their general pedagogical characterization, publishing house of Kutaisi State University. Bochorishvili. M., interactive methods of teaching". Tbilisi, 2015 Chkuaseli St., Modern teaching methods in high school, Gori University, Second International Conference - New Directions in Education Research, October 2-3, 2009, Gori city. The mentioned literature can be found in TSU libraries. The basic literature for the doctoral student is almost formally indicated, depending on the topic of assistance and teaching format, it can also be any related books, articles, conference materials, protected dissertations, competent research materials and others that exist in printed form or are searched by the doctoral student on the Internet.
Supporting literature and other study materials	Supporting literature for a doctoral student, depending on the topic of assistance, can also be any related books, articles, conference materials, defended dissertations, competent research materials and others that exist in printed form or are searched for by the doctoral student on the Internet. In addition, the doctoral student will have access to various international electronic databases and catalogues (see the program)
Additional information/conditions related to taking the training course (if any)	Consultations with students will be held according to the schedule agreed with the faculty administration.
Academic integrity	The student must follow the norms of ethics, both in relation to professors and other students, to come to classes on time. and turn off the mobile phone. All students are required to maintain academic integrity. A paper in which a case of plagiarism is detected will not be graded; Consultations with students will be held according to the schedule agreed with the faculty administration.

Module 5: Seminar

Name	**Doctorate Seminar**
The author of the course	Assoc. Prof, George Sharvashidze
Lecturer/Lecturers	First name, last name: Assoc. Prof. George Sharvashidze Workplace: Department of Education Tel.: e-mail: George.sharvashidze@tsu.ge Consultation meetings will be held according to agreement, in the relevant departments, according to the table
Course status	Mandatory Faculties: Psychology and Educational Science Teaching level: third, doctorate Program: Vocational Education
ECTS	5 Credit, total 125 hours **including:** ➢ periodic presentation of the material processed at the meetings with the scientific supervisor – 13 hours.; ➢ Finding the necessary literature, working on sources, analysis of materials, systematization, classification - 52 hours; ➢ Problem identification/solution work and presentation of relevant material as a paper - 45 hours; ➢ Preparation of the presentation – 13 hours. ➢ Final presentation-evaluation of the seminar 2 hours Independent work: 110 hours
Prerequisites for admission to the study course	*without prerequisites*
Objectives of the training course	doctoral students in the field Enhancing existing knowledge, current topics , possible ways to solve problems related to it Searching and presenting it independently, using research methods, discussing, entering into polemics, opinions Mastering shared techniques, mastering the skills of working on a doctoral thesis. The doctoral student's seminar paper is not a constituent part of the dissertation. **Possible topics of the seminar:** **(The list of issues is general and somewhat formal in nature, which will be expanded along with the specific scientific interests of the doctoral student)** 1. information technologies, computer programs in the teaching process; 2. problem-based learning; 3. VET didactics;

	4. Forms of teaching organization and management strategies in VET; 5. Basic principles and approaches of VET curriculum construction and development; 6. VET Curriculum, main strategies for its development; 7. Inclusive education and modernity; 8. Problems of intercultural and multicultural education in TVET; 9. Basic levels and dimensions of TVET teaching and assessment; 10. Basic approaches and requirements of Bologna; 11. Assessment of learning/teaching process and quality assurance mechanisms in VET; 12. The genesis of the history of education and modern challenges
learning outcomes in accordance with the described qualification framework	**Knowledge-awareness** The doctoral student, by thoroughly processing a specific issue of the field and responding to the challenge surrounding it, **does:** ▪ expand the area of knowledge based on the latest achievements of the field and integrating existing inter-field knowledge into it; ▪ plans, formulates, or reconstruct existing steps in response to a problem/challenge related to a chosen issue. **Skills:** ▪ doctoral student creates a new design to solve a specific issue or field -specific problem; ▪ In the materials presented by the doctoral candidate, new knowledge is created, a new, original scientific/methodological product is added to the field. **Autonomy and responsibility:** ▪ When presenting the issue, the full consideration of academic integrity by the doctoral student is confirmed; ▪ It was created by a doctoral student Academic and/or in a professional context on the latest developments Established research work in academic and/or Professional of integrity Following the principles, innovation and independence by demonstrating.
Teaching and learning methods	The doctoral candidate studies and analyses the knowledge, theories, legacy and experience of scientists, scholars and teachers in the field by processing printed and internet sources, scientific literature and articles. **Problem-based learning (PBL**) - a learning method that uses a problem as the initial stage of the process of acquiring and integrating new knowledge. In order to adequately solve this problem, the doctoral student works on sources, scientific literature, through

	modern information technologies, he searches for the latest scientific achievements in the relevant field, articles, conference materials and all materials related to the problem. Combining the obtained materials and data, as well as one's own opinions, often forms the basis for creating new knowledge in this field. **Demonstration (visual) method** – this method involves visual presentation of information. This method will be used by the doctoral student in the final part of the seminar, because he has to present the seminar in the form of a presentation.
Evaluation system	The knowledge of the doctoral student will be assessed taking into account the following assessment forms: **Intermediate assessment A** **Final assessment** The sum of points is 100 points: ● **Intermediate assessment A** -maximum 60 points; ● **Final assessment** – maximum 40 points. The intermediate evaluation of the seminar paper is done on the 13th week of the corresponding semester by the supervisor of the doctoral student with a maximum of 60 points, and the final evaluation (maximum of 40 points) is specially created by the commission, which includes the head of the program, the scientific supervisor of the doctoral candidate and at least two specialists in the field. The doctoral candidate shall submit the printed version of the seminar paper to the commission at least two weeks before the presentation. The topic presented in writing by the doctoral student must meet the following requirements: Volume – 10-15 printed pages; Sheet size - A4, type of font - Sylfaen, English Tech St. Un and Written in Times New Roman font. font Size - 12, chapters and of subsections naming font Size There should be 16 and 14 lines, respectively between distance - 1.5; page Borders: from above and from below - 2.5 cm; from the left - 3 cm ; from the right - 1.5 cm. **The components of the evaluation of the doctoral student by the scientific supervisor and Criteria:** **On the necessary literature (including foreign) access - max. 6 points** **6 points:** The searched information is diverse; the searched Georgian and foreign literature is a synthesis of new and old literature; fully complies with the requirements of the scientific community;

	5 points: The searched information is diverse, the searched Georgian and foreign literature is a synthesis of new and old literature; generally, corresponds to the requirements of the community; **4 points:** The searched information is diverse, the searched Georgian and foreign literature is a synthesis of new and old literature; However, it partially corresponds and meets the requirements of the community; **3 points:** The information sought is diverse, Georgian and foreign literature is sought, although it is not related to each other; partially corresponds and meets the requirements of the community; **2 points:** The obtained information is not diverse. No foreign language literature was searched; Lack of relevance and quality; **1 point:** The information obtained is monochromatic and lacks relevance and quality; **0 point:** The information does not meet the criteria presented above. **Quality of information processing - max. 10 points** **10 points:** Information processed **In depth and clearly in** accordance with the achievement of a specific goal. A synthesis of old and new literature can be seen, a doctoral analysis based on the views of scientists. cites the work correctly, in full compliance with the norms of non-plagiarism and scientific ethics; **9 points:** information processed **In depth and clearly in** accordance with the achievement of a specific goal. A synthesis of old and new literature can be seen, however, in the background of the views of scientists, the doctoral analysis is less pronounced. generally cites correctly, in full compliance with the norms of inadmissibility of plagiarism and scientific ethics; **8 points:** Information processed In- depth and clearly to achieve a specific goal. however, The synthesis of old and new literature is less visible. Doctoral analysis based on scientists' views is not presented. There are a few errors in reference to the work (citation), but plagiarism and violation of scientific ethics norms are not recorded; **7 points:** Information processed In- depth and clearly to achieve a specific goal. A synthesis of old and new literature can be seen. Doctoral analysis is not visible in the background of scientists' views. There are errors in reference to the work (citation), although plagiarism and violation of scientific ethics norms are not recorded; **6 points:** Information **is** processed **,** although it is divided and clearly cannot ensure the achievement of a specific goal. Comparative analysis of old and new literature is less

	visible. There are errors in reference to the work (citation), although there are almost no violations of scientific ethics norms; **5 points:** Information is processed , although it is divided and clearly cannot ensure the achievement of a specific goal. Comparative analysis of old and new literature is less visible. Only the views of scientists are used as arguments, and doctoral analysis is rarely presented. There are errors when referring to the work (citation). **4 points:** Information is not deep processed and clearly cannot ensure the achievement of a specific goal. There is no comparative analysis of old and new literature. It is less argumentative. There are serious errors in referencing the work (citation). **3 points:** Information is not deep processed and clearly cannot ensure the achievement of a specific goal. Arguments are hardly visible. There are serious errors in referencing the work (citation). **2 points:** Information is almost raw. Literature is scarce, arguments are not visible. **1 point:** The literature is scarce and unprocessed. Its use cannot ensure the achievement of the goal; **0 point:** The paper does not meet the criteria presented above or is not presented at all. **Scientific apparatus - max. 4 points** **4 points:** the topic is performed at a high academic level, the doctoral candidate correctly uses scientific terminology, has used an accurate and adequate translation of the foreign literature in the field, the terminology contained in it; **3 points:** the topic is performed at the academic level, the doctoral student mainly uses the scientific terminology correctly, he has used the translation of the foreign literature in the field, the terminology in it with a few errors; **2 points:** the topic is performed at an average academic level, the doctoral student uses scientific terminology incorrectly, he has used the translation of foreign literature in the field, however, the terminology in it is sometimes translated inaccurately and with errors; **1 point:** The topic is performed at a non -academic level, the doctoral student mainly uses scientific terminology incorrectly, has used foreign literature in the field , which is translated inaccurately and with strong errors; **0 point:** The required information does not meet the criteria presented above **Identify the issue - max. 10 points**

	10 points: the question is clear and logical Formed and covered. is completely identified with the seminar topic and responds to the topic; **9 points:** the issue is clear and logical Formed and covered. identifies with the seminar topic and responds to the topic; **8 points:** The issue is formulated logically, is identified with the seminar topic and answers the topic, but lacks clarity ; **7 points:** The issue is logically formulated, generally identified with the seminar topic and answers the topic, but lacks clarity . **6 points:** The question is formulated, but to the end Contextual is not considered factors; Mainly identified with seminar topics; **5 points:** The question is formulated, but the context is not taken into account factors; generally identified with seminar topics; **4 points:** The question formulated, but superficially and it is formulated in a non-argumentative manner; Error identifying the topic; **3 points:** The issue Formulated, but superficially and is presented without arguments; **2 points:** Question A is asked unqualifiedly, contextual factors unexpectedly , the identification of the issue causes doubt; **1 point:** A Question is asked unqualifiedly, contextual factors unexpectedly , the issue is mostly not identified; **0 point:** A work does not meet the above criteria **Reliability and validity of the used research methods - max. 10 points** **10 points:** Used Research methods are effective; It is complexly selected, which leads to an effective result. The research methods used are reliable and time-tested, however, the PhD student offers a new, innovative research method/methods. The quantity and quality of the research materials create the validity of the research results. **9 points:** Used Research methods are effective and purposeful and It is complexly selected, which leads to an effective result. The research methods used are reliable and time-tested, although the doctoral candidate does not propose a new, innovative research method/methods. The quantity and quality of the research materials create the validity of the research results. **8 points:** Used Research methods are effective, it has been tested many times, the quantity and quality of the research materials create the validity of the research results. However, it is not complex and purposefully selected.

	7 points: Applied Research methods are effective , tested, the quantity and quality of the research materials mainly create the validity of the research results. But not complex. **6 points:** - to achieve the goal used Research methods are more or less ineffective . It is reliable. And the quantity and quality of purposefully selected research materials generally creates the validity of the research results, although the focus is only on the individual direction of the research. **5 points:** - Used Research methods are purposefully selected, however, attention is focused only on a separate direction of research. The quantity and quality of the research materials raises doubts about the validity of the research results. **4 points:** Applied Research methods are mainly targeted selected, however, are flaws in the conduct of the study. The quantity and quality of research materials does not create clear validity of research results. **3 points:** Applied Research methods are less targeted selected. There are flaws in conducting research. The quantity and quality of research materials generally invalidate research results. **2 points:** Research methods used for non-purpose. There is a serious flaw in the conduct of the study and, accordingly, the results are largely invalid. **1 point:** research methods is used in an unqualified and untargeted manner. There are serious flaws in the conduct of the study and, accordingly, the results are invalid. **0 points:** The required information does not meet the criteria presented above **Adequacy of solution of the issue - max. 10 points** **10 points:** The paper provides a systematic and critical analysis of a wide variety of scientific information, a doctoral-level competent assessment, and the expected results and assumptions of the solution to the issue. The purpose, tasks and probable hypothesis of the issue are fully consistent with the conclusions of the topic; **9 points:** The paper provides a critical analysis of a wide variety of scientific information, a doctoral-level competent assessment, and the expected results and assumptions of the solution of the issue. The purpose, objectives and probable hypothesis of the issue are consistent with the findings of the topic; **8 points :** The paper provides a critical analysis of various scientific information, the purpose of the issue, tasks and probable hypothesis are in accordance with the conclusions of the topic . However , the doctoral student makes a critical assessment of other people's opinions without forming his own opinion.

	7 points: The paper provides a critical analysis of various scientific information, the purpose of the issue, tasks and probable hypothesis are generally consistent with the conclusions of the topic . Only doctoral students evaluate other people's opinions . **6 points:** The paper provides an analysis of scientific information, but does not clearly separate one's own and others' opinions when establishing a position. The purpose, objectives, and intended hypothesis of the issue are generally consistent with the findings of the topic; **5 points:** the paper generally provides an analysis of scientific information. The purpose, objectives, and hypothesis of the issue are less consistent with the findings of the topic; **4 points:** The paper contains flaws in the analysis of scientific information by the doctoral student. It is difficult to distinguish between evidence and assumptions. The purpose, objectives, and hypothesis of the issue are generally not consistent with the findings of the topic; **3 points:** The paper contains flaws in the analysis of scientific information by the doctoral student. There is no clear separation of one's own and other's opinions when establishing a position. It is difficult to distinguish between evidence and assumptions. The purpose, objectives and probable hypothesis of the issue are mostly not in accordance with the findings of the topic; **2 points:** The scientific literature is scarce and the analysis of scientific information by the doctoral student is not given. A PhD student cannot distinguish between evidence and conjecture. The purpose, tasks and probable hypothesis of the issue are almost not in accordance with the conclusions of the topic; **1 point:** Scientific literature is scarce and not given PhD candidate cannot distinguish between evidence and conjecture. The purpose, tasks and probable hypothesis of the issue are not in accordance with the conclusions of the topic; **0 point:** The information does not meet the criteria presented above, or is not presented at all **The structure of the work - max. 10 points** **10 points: the content of the** topic is arranged and presented in a logical order in the structure; The purpose, relevance of the topic is highlighted, the problem is posed and the ways to solve it are defined. A critical review of the information surrounding the issue, conclusions and doctoral analysis, research design, and a list of used literature can be seen.

	9 points: the content of the topic is arranged and conveyed in a structure; The purpose, relevance of the topic is highlighted, the problem is posed and the ways to solve it are defined. In the presentation, the overview of the information surrounding the issue and the conclusions and analysis based on it are presented in sequence; Research design and reference list. **8 points: the purpose and relevance of the** topic are highlighted in the content of the topic, the problem is posed and the ways to solve it are outlined. The content of the presentation is developed accordingly, where the issues within the framework are presented in sequence, although some issues lack clarity and contextual interpretation; **7 points: the purpose and relevance of the** topic are highlighted in the content of the topic, the problem is posed and the ways to solve it are outlined. The content of the presentation is developed accordingly, however, the issues within the framework are presented in less order. Some issues lack clarity and contextual interpretation; **6 points:** the issues within the framework are presented in less order in the topic structure. Issues lack clarity and contextual interpretation; Some issues are overstated and fall out of the context of the issue; **5 points:** the issues within the framework are not presented in sequence in the structure of the topic, some issues are presented superficially and fall out of the context of the issue; **4 points**: There are flaws in the structure, content and logic. The issues presented are superficial and often fall out of the context of the issue; **3 points**: There are strong flaws in the structure of the topic in relation to logic. The above-mentioned issues are presented. **2 points:** broken The structure of the topic, however, the purpose of the topic, relevance, the problem posed are more or less conveyed in the topic. Issues lack contextual explanations, further disrupting the framework of the topic. **1 point:** broken The structure of the topic, the purpose of the topic, relevance, the problem posed are conveyed with errors. There are no contextual explanations in the issues. **0 point:** The structure of the work does not meet the criteria presented above . **The maximum score for the evaluation of the seminar paper by the commission members is 40. 15-20 minutes are intended for the presentation of the doctoral student's seminar paper. The evaluation of the seminar paper is done taking into account the following criteria:** **Relevance of the issue - max. 10 points**

	10 points: the selected issue is relevant and responds to the latest challenges in the field, besides, it is understood and presented in a new way by the doctoral student; **9 points:** the selected issue is relevant and responds to the latest challenges in the field, although it is not understood and presented in a new way by the doctoral student; **8 points:** the selected issue is relevant and responds to the latest challenges in the field; **7 points:** the selected issue is generally relevant and responds to the latest challenges in the field; **6 points:** the selected issue is less relevant, although it responds to the latest challenges in the field; **5 points:** the selected issue is less relevant; besides, it cannot respond to the latest challenges in the field; **4 points:** the selected issue is more or less elaborated, however, it is necessary for the development of the field; **3 points:** the selected issue has already been processed, but it is useful for the development of the field; **2 points:** the selected issue is less relevant **1 point:** the selected issue is hardly relevant **0 point: The** issue is not relevant at all **Adequacy of solution of the issue - max. 10 points** **10 points:** The paper provides a systematic and critical analysis of a wide variety of scientific information, a doctoral-level competent assessment, and the expected results and assumptions of the solution to the issue. The purpose, tasks and probable hypothesis of the issue are fully consistent with the conclusions of the topic; Innovative approaches to problem solving can be seen. **9 points:** The paper provides a critical analysis of a wide variety of scientific information, a doctoral-level competent assessment, and the expected results and assumptions of the solution of the issue. The purpose, objectives and probable hypothesis of the issue are consistent with the findings of the topic; Innovative approaches to problem solving can be seen. **8 points:** The paper provides a critical analysis of a wide variety of scientific information, but the doctoral student critically evaluates the opinions of others without forming his own opinion. However, the purpose, objectives, and hypothesis

of the issue are consistent with the findings of the topic; Innovative approaches to problem solving **are less visible.**

7 points: The paper provides a critical analysis of various scientific information, only doctoral students evaluate the opinions of others . almost not Innovative approaches to problem solving can be seen.

6 points: The paper provides an analysis of scientific information, but does not clearly separate one's own and others' opinions when establishing a position. The purpose of the issue, the objectives and the proposed hypothesis are flawed, but consistent with the conclusions of the topic; No innovative approaches to the issue are seen.

5 points: the paper generally provides an analysis of scientific information. The purpose, objectives, and hypothesis of the issue are flawed but consistent with the findings of the topic;

4 points: The paper contains flaws in the analysis of scientific information by the doctoral student. It is difficult to distinguish between evidence and assumptions. The purpose, objectives, and hypothesis of the issue are generally not consistent with the findings of the topic;

3 points: The paper contains flaws in the analysis of scientific information by the doctoral student. It is difficult for a doctoral student to distinguish between evidence and assumptions. The purpose, objectives and probable hypothesis of the issue are mostly not in accordance with the findings of the topic;

2 points: scientific literature is scarce; A PhD student cannot distinguish between evidence and conjecture. The purpose, tasks and probable hypothesis of the issue are almost not in accordance with the conclusions of the topic;

1 point: scientific literature is scarce; The doctoral student does not make a clear distinction between his own and other people's opinions when defining his position. A PhD student cannot distinguish between evidence and conjecture. The purpose, tasks and probable hypothesis of the issue are not in accordance with the conclusions of the topic;

0 point: The required information does not meet the criteria presented above, or is not presented at all

Technical-organizational side of the presentation - max. 10 points

Criteria	Fully corresponds to 2 St	partially corresponds to 1 st	Does not match 0
Visual material designed and			

presented perfectly,			
Uses modern methods of presentation			
A high level of use of information technology can be seen,			
The presentation is interesting and understandable			
The regulations are respected.			
Total maximum	**10 points**		

Answering the questions - max. 10 points

Criteria	**Fully corresponds to 2 St**	**partially corresponds to 1 st**	**Does not match 0**
doctoral student are complete and exhaustive,			
Speaks correctly, following and using scientific terminology			
Competent in defending and sharing one's opinion			
Freely engages in discussion			
Accepts and shares healthy criticism			
Total maximum	**10 points**		

During the evaluation of the preparation and defense of the seminar paper, the final score is derived from the average score of the commission members and the score written by the supervisor. score Arithmetic in total.

Without passing the minimum threshold of the final assessment, the marks of the midterm and final exam of the doctoral student will not be counted and will be signed (F).

evaluation system provides for:

a) five facial positive to evaluate:
(A) Friadi - 91-100 points of assessment;
(B) very Good - maximum 81-90 evaluation points;
(C) good - maximum 71-80 points of assessment;
(D) Satisfactory - maximum 61-70 evaluation points;

	(E) Sufficient – maximum 51-60 points of assessment. b) two facial negative To evaluate: 1) (FX) Passed - maximum 41-50 points of assessment, that is means that _ to the student to pass more working He needs and is given independent by working additionally on the exam once exit the right 2) (F) cut - maximum 40 evaluation points and less than that means that _ of a student by conducted work no is enough and him the subject anew has to be studied . of FX receiving in case higher educational institution is obliged additional exam to appoint final of the exam results from Revelation not less than 5 days. The minimum competence limit for the intermediate assessment is 21 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 20 points
Compulsory/basic literature and other study material	Possible literature for the doctoral student, depending on the topic of the seminar, can be any books, articles, conference materials, defended dissertations, competent research materials and others, which exist in printed and electronic form and are searched by the doctoral student on the Internet. The electronic databases of literature and sources to which he has access within the framework of the agreements signed by the universities will also help the doctoral student to find and process the necessary resources.
Supporting literature and other study materials	
information/conditions related to taking the training course (if any)	Consultations with students will be held according to the schedule agreed with the faculty administration.
Academic integrity	The student must follow the norms of ethics, both in relation to professors and other students, to come to classes on time. and turn off the mobile phone. All students are required to maintain academic integrity. A paper in which a case of plagiarism is detected will not be graded; Consultations with students will be held according to the schedule agreed with the faculty administration.

Content of the study course

of the week Nr	lecture/seminar/practical/laboratory work etc. topic	Literature and other study material
1	Possible literature for the doctoral student, depending on the topic of the seminar, can be any related books, articles, conference materials, defended dissertations, competent research materials and others that exist in printed and electronic form and are searched by the doctoral student on the Internet.	
2	The electronic databases of literature and sources to which he has access within the framework of the agreements signed by the universities will help the doctoral student to find and process the necessary resources.	
3	Possible literature for the doctoral student, depending on the topic of the seminar, can be any books, articles, conference materials, defended dissertations, competent research materials and others, which exist in printed and electronic form and are searched by the doctoral student on the Internet.	
4	The electronic databases of literature and sources to which he has access within the framework of the agreements signed by the universities will help the doctoral student to find and process the necessary resources.	
5	Supervisor consultation (1 hour): Work on sources and other scientific literature	
6	Supervisor consultation (1 hour): **Analysis of retrieved and processed materials**	
7	Supervisor's consultation (1 hour): **systematization and classification of searched materials**	
8	Supervisor consultation (1 hour): **Problem solving tasks**	
9	Supervisor consultation (1 hour): **Problem solving tasks**	
10	Supervisor consultation (1 hour): **Problem solving tasks**	
11	Supervisor consultation (1 hour): **Work on conclusions and presentation of relevant material as a seminar paper**	
12	Supervisor consultation (1 hour): **Presenting relevant material as a term paper**	
13	**(intermediate assessment) supervisor assessment**	

14	Preparation for the defense of the seminar paper, preparation of the presentation	
15	Preparation for the defense of the seminar paper, preparation of the presentation	
16. Preparation for the defense of the seminar paper, preparation of the presentation		
17. Final assessment (Seminar presentation and defense) - maximum 40 points		
18. Additional assessment		

Module 6: Leadership and administration for research practice and policy in education and beyond

Course name	**Leadership and administration for research practice and policy in education and beyond**
Author(s) of the Syllabus	**Rusudan Sanadze, Nikoloz Parjanadze**
Lecturer(s)	**Rusudan Sanadze,** Associate Professor, Faculty of Psychology and Education Sciences, Ivane javakhishvili Tbilisi State University, Cell: 591510522, email: Rusudan.sanadze@tsu.ge; **Nikoloz Parjanadze** – Invited lecturer
Course status	Faculty: Psychology and Educational Sciences Level of Education: PhD Program Program: Vocational Education Status (mandatory/optional): Mandatory
Credits according to ECTS	Credits: 5 Total number of hours: 125 Contact hours: 45 Lecture: seminar: 15 Hands-on training: 30 Independent work hours: 80
Aim of the Course	This course aims to equip students with comprehensive knowledge and skills for effective leadership and administration of research projects and initiatives in education, especially, in higher education. Students will explore classical and contemporary leadership theories, organizational behavior concepts, and research methodologies. They will learn project planning, budgeting, team management, research ethics, data management, and responsible approaches to data. Additionally, the course will cover policy processes, stakeholder engagement, evidence-based policy development, policy implementation, and evaluation in the context of education. Students will gain insights into strategic planning, vision-setting, change management, and fostering innovation. By the end of the course, students will have a deep and comprehensive understanding of how to lead and administer complex research projects, translate research findings into policy recommendations, and drive positive change in educational practice and policymaking.
Prerequisite(s)	None
Learning outcomes **Knowledge-students** **Skills** **Independence and responsibility**	Upon successful completion of the course, students: 1. Analyze various leadership theories and models, and evaluate their applicability in research contexts. 2. Synthesize organizational behavior and management theories to develop strategies for effective research team management and collaboration in the field of education, with much emphasis on higher education. 3. Critique different research methodologies and paradigms, and select appropriate approaches for addressing complex research problems in education policy and procedure, especially, in higher education at Micro, Macro and Mezzo levels 4. Develop comprehensive research project plans, including budgeting, resource allocation, risk assessment, and mitigation strategies. 5. Appraise ethical principles and guidelines in research, and formulate strategies for ensuring research integrity and regulatory compliance while conducting research in the context of education. 6. Evaluate policy processes and frameworks, and interpret stakeholder analysis to inform evidence-based policy development in education. 7. Construct policy implementation and evaluation plans, incorporating monitoring frameworks, impact assessment, and feedback loops. 8. Formulate strategic plans and roadmaps, aligning research initiatives with organizational priorities and fostering innovation and change management

Teaching/learning Methods	
Assessment Criteria	**Oral Assessment (participation) - 13** **Written tasks - 20** **Midterm Exam (Literature Review) - 25** **Presentation (First draft of Research Proposal) - 12** **Final Exam (Research Proposal) – 30** --- **Oral Assessment (participation) - 13** Oral Assessment (Participation) – Quantity-13, Assessment scale: 1-0 Criteria- Engagement and Preparation **1 Point -** The student consistently demonstrates active engagement in classroom activities by contributing thoughtful insights, asking relevant questions, and actively participating in discussions. Additionally, the student consistently comes prepared for class, having thoroughly read and understood the assigned materials, and brings insightful observations and evidence of critical thinking. **0.5 Point -** The student occasionally demonstrates engagement in classroom activities by contributing moderately to discussions, asking some relevant questions, and showing some evidence of preparation. However, there may be inconsistencies in their participation or depth in their contributions. **0 Point -** The student rarely demonstrates engagement in classroom activities, seldom participates in discussions, asks few or no questions, and shows little evidence of preparation, hindering their ability to contribute meaningfully to the learning environment. **Written Tasks – 20,** Quantity-4, Assessment 5-0 **Open-ended questions of home-tasks are assessed according to the following system:** 5 points – The answer is complete. The topic is discussed completely with much accuracy. The terms are used correctly. A student demonstrates consistent knowledge of the materials, and shows that has read both compulsory and additional literature. There are no inaccuracies. The narrative is coherent. 3.5-4.5 points – The answer is complete, however, lacks some details. Terminology is used accurately. There are no essential mistakes. A student demonstrates good knowledge of the material provided in compulsory literature, and shows accurate judgement. 2.5-3.5 points – The answer is incomplete. Some terms are used inaccurately. A student shows knowledge of the material determined in the program, however, there are inaccuracies. The judgement lacks cohesion. 1.5 – 2.5 points – The answer is incomplete. Terms are not used correctly. A student demonstrates only partial knowledge of the material determined in the program, and shows incomplete knowledge of the compulsory literature. There are essential mistakes in a student's work. 0.5-1.5 points – A student shows poor knowledge of the material and no field-specific terms are used. The answer is incorrect. A student demonstrates only very limited knowledge of the material. 0 point – The answer is not relevant, or the task is not completed at all. **Midterm Exam (operational definition) - 25** The **midterm exam** is in a written form and is assessed by maximum 25 points. A student has to write a piece of literature review/operational definition – a student reviews existing scholarly publications on any issues from their own field of study, and this topic is selected by students themselves. Students have to write an analytic piece of literature review in which various techniques will be used, e.g. interpretation, paraphrasing, synthesis, etc., and a student has to follow APA requirements for citation and referencing. Students write midterm exam paper without any supervision and send the paper to the lecturer's email. If there is any percentage of plagiarism, the paper will receive 0 point. The following rubric will be used to assess literature review: Annex 1 - **Midterm Exam (Literature Review) – 25.** **Presentation (First draft of Research Proposal) - 12** **Assessment Rubric for Presentation (Research Proposal – overall 12 points) -** Annex 2

	Final Exam (Research Proposal) – 30 **Final Exam** is in a written format and students can get **30 points maximum** - Annex 3. Students need to submit a written research proposal as a final exam assignment. A proposal should be detailed outlining major components of a standard research proposal: introduction, defining a research problem, defining research goals and objectives, defining research questions, research population and research samples, brief literature review of the existing scholarly knowledge on the research topic, data analysis procedures, data collection tools and data analysis methods, limitations to the research and future research prospects. The volume of the final exam paper is 3500-4000 (+/- 10%) words approximately. Students write final exam paper without any supervision and send the paper to the lecturer's email. If there is any percentage of plagiarism, the paper will receive 0 point. The final exam will be assessed in accordance with the following criteria The evaluation system includes: A) Five types of positive evaluation: Aa) (A) Excellent - 91-100 points of evaluation; Ab) (B) Very good - 81-90 points of maximum grade; Ac) (C) Good - 71-80 points of maximum evaluation; A.d) (D) Satisfactory - 61-70 points of maximum evaluation; Ae) (E) Sufficient - 51-60 points for maximum grade. B) Two types of negative evaluation: Ba) (FX) Failed with the permission to reseat - maximum score 41-50 points, which means that the student needs more work to pass and is allowed to take an additional exam once by working independently; Bb) (F) Failed - a maximum score of 40 or less, which means that the work done by the student is not enough and he / she has to study the subject again. In case of receiving FX, the higher education institution is obliged to schedule an additional exam not less than 5 days after the announcement of the final exam results. The right to take the final exam is given to a student who accumulates 21 points taking into account the minimum score of midterm grades. The exam is considered passed if the student receives 50% of the final exam grade.
Mandatory Textbooks	1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE.
Additional reading materials	1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
Additional Information/ Conditions Related	Consultations with students will be held according to the schedule agreed with the administration of the Faculty of Psychology and Educational Sciences.

to the Learning Course (if any)	
Academic Integrity	The student must submit only the text/review prepared by him/her, in which the authorship of this or that idea and/or words will be indicated in accordance with the academic style. The doctoral student accepts the disciplinary responsibility defined by the Code of Ethics for the observance of the principles of academic integrity, which are an integral part of true academic education and a fundamental value of the University.

Course content

Number of week1	**Topic of the lecture/seminar/hands-on training/laboratory work etc.**	**Literature and other teaching materials**
1	**Introduction to Leadership and Administration in Research** (Topic 1) - Course overview and objectives - Defining leadership and administration in research contexts - The importance of research in shaping policy and practice	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
2	**Leadership Theories and Models** (Topic 2) - Classical and contemporary leadership theories - Transformational, transactional, and servant leadership - Situational and contingency leadership models	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE.

		Additional Literature: 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
3	**Organizational Behavior and Management Theories** (Topic 3) - Organizational structures and cultures - Motivation and decision-making theories - Change management and organizational development	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. **3.** Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
4	**Research Methodologies and Paradigms** (Topic 4) - Quantitative, qualitative, and mixed methods research - Experimental, non-experimental, and action research designs - Positivist, interpretivist, and critical research paradigms	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
5	**Project Planning and Budgeting** (Topic 5) - Developing research proposals and project plans - Resource allocation and budgeting strategies	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research*

	- Risk assessment and mitigation strategies	*design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
6	**Research Team Management and Collaboration** (Topic 6.1) - Building and leading effective research teams - Conflict resolution and team dynamics – Micro and macro Level (case studies) - Fostering interdisciplinary and cross-cultural collaboration	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
7	**Research Team Management and Collaboration** (Topic 6.2) - Building and leading effective research teams - Conflict resolution and team dynamics – Micro, Macro and Mezo levels - Fostering interdisciplinary and cross-cultural collaboration	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
8	**Research Ethics and Compliance** (Topic 7) - Ethical principles and guidelines in research	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP

	- Institutional review boards and regulatory compliance - Responsible conduct of research and research integrity	Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
9	**Data Management and Responsible Approach to Data** (Topic 8) - Data collection, storage, and security - Data analysis and interpretation - Reproducibility and replicability in research	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
10	**Understanding Policy Processes and Frameworks** (Topic 9) - Policy cycles and models - Stakeholder identification and analysis - Policy contexts and environments	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.

11	**Stakeholder Analysis and Engagement** (Topic 10) - Stakeholder mapping and prioritization - Effective communication and advocacy strategies - Building coalitions and partnerships	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
12	**Evidence-Based Policy Development** (Topic 11) - Incorporating research evidence into policy-making - Critical appraisal of research evidence - Translating research into policy recommendations	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
13	**Policy Implementation and Evaluation** (Topic 12) - Policy implementation strategies and challenges - Monitoring and evaluation frameworks - Impact assessment and policy feedback loops	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and prectices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically*

		informed advanced methods. Bloomsbury Academic.
14	**Strategic Planning and Vision Setting for Change Management and Innovation** (Topic 13) - Developing strategic plans and roadmaps for leading and managing change and innovation - Vision, mission, and goal-setting for fostering innovation and creativity - Aligning research with organizational priorities	**Compulsory literature:** 1. Rosch, D. M., Kniffin, L. E., & Guthrie, K. L. (Eds.). (2023). *Introduction to research in leadership*. IAP Information Age Publishing, Inc. 2. Creswell, J. W., & Creswell, J. D. (2023). *Research design: qualitative, quantitative, and mixed methods approaches* (Sixth edition). SAGE. **Additional Literature:** 1. Cheles, L., & Giacone, A. (Eds.). (2020). *The political portrait: leadership, image and power*. Routledge, Taylor & Francis Group. 2. Kara, H., Lemon, N., Mannay, D., & McPherson, M. (2021). *Creative research methods in education: principles and practices*. Policy Press. 3. Hamilton, L., & Ravenscroft, J. (Eds.). (2018). *Building research design in education: theoretically informed advanced methods*. Bloomsbury Academic.
15	**Students' individual presentations**	

Module 7: Vocational Education for Sustainable Development

Title of the teaching course	Vocational Education for Sustainable Development
Author(s) of the Course	Dr. Ulrich Schachtschnerider, Prof. Dr. Bünning, H. Tegelbeckers, Assoc. Prof. Irma Grdzelidze
Lecturer(s) of the Course	Assoc. Prof. Irma Grdzelidze
Status of the Course	5. Phycology and Education Faculty
	6. PhD Program Education
	7. Elective
	8. English Language Instructed

ECTS	Credits (ECTS): 5 (125 hours) Contact hours throughout semester: 30 h. (Seminars) Students' independent working hours: 85 h.
Prerequisites	NA
Goals of the teaching course	The aim of this course is to equip students with the necessary knowledge for evaluating approaches on education for sustainability as well as skills for developing a conception for its implementation in a vocational education institution
Learning outcomes	Upon completion of the course, the student will be able to: ● Understand the complexity of sustainability approach ● Know approaches and difficulties of education for sustainable development in technological education ● Know suited teaching methods for education for sustainable development ● Develop a conception for implementation of sustainable development in a vocational institution ● Evaluate chances and difficulties of implementation process ● Outlining sustainable strategies for different VET sectors
Teaching and Learning Methods	Meta Plan, presentation, discussion, role play, museum walk, peer evaluation, various social formats
Course Assignments and Grading	Final assignment: Developing a conception for integration of sustainable development in a vocational institution (2000 words) Weight ● 20 points per oral seminar work (2 seminar works) **9-10 points: The work is performed;** The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained in the thesis. **7-8 points : The work is performed** ; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing is maintained. **5-6 points: The work is performed incompletely**: The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style.

	3-4 points: The work is performed incompletely; The material is processed in part; The student is not sufficiently aware of the material envisaged by the program. There are important shortcomings in maintaining the academic style. **1-2 points : The work is imperfect;** Only separate fragments of the task are processed. There are important shortcomings in maintaining the academic style. **0 points** – The work is not presented. ● 20 points per activities in the class 18-20 scores - The student is always prepared for lecture / seminar; he/she has read the materials; is actively involved in interactive work; during the discussion he/she always relies upon the relevant materials; always delivers the substantiated, original ideas; always makes a significant contribution to the discussion. 14-17 scores - The student is mostly prepared for lecture / seminars; he/she has read the most of the reading materials; he/she is mostly involved in interactive work; during the discussion he/she mostly relies upon the relevant materials; he/she mostly expresses the substantiated, original ideas; makes significant contribution to the discussion. 9-13 scores –The student is prepared for lecture / seminar, although sometimes his/her preparedness is not adequate; he/she has partially read the materials; the student is involved in interactive work, although sometimes the level of his/her activity is low; during the discussion relies upon the relevant materials in some cases; expresses his/her opinion during discussion, although they often lack the justification; he/she makes a certain contribution to the discussion. 1-8 Scores - The student is mostly unprepared for lecture / seminar; he/she has rarely read the materials; the student is rarely engaged in interactive work; during discussion he/she rarely expresses reasoned opinions; rarely makes significant contribution to the discussion. 0 score – Student doesn't participate in activities and isn't papered for lectures and seminars ● 40 points for final assignment (4 tasks, each -10 points) **9-10 points:** The work is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. TSU scientific online databases have been carefully studied. **7-8 points:** The work is performed; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the

	program are generated. TSU scientific online databases have been worked out. **5-6 points:** The work is performed incompletely; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. TSU scientific electronic databases are not sufficiently worked out. **3-4 points:** The work is performed incompletely; The material is processed in part; The student is not sufficiently aware of by the program. TSU scientific databases are not worked out. There are important shortcomings in maintaining the academic style. **1-2 points:** The work is imperfect; Only separate fragments of the task are processed. TSU scientific online databases are not used. **0 points** - the assignment is not provided The minimum competence limit for the intermediate assessment is 20 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 21 points
Basic Literature *The reader is designed according to the basic literature identified in the syllabus. The reader is available to all the students and interested parties*	● BIBB (Pb.) 2013: Ordinance on Vocational Education and Training in the Occupation of Mechatronics Fitter ● BREUER, A.; LEININGER, J.; TOSUN, J. 2019: Integrated Polcymaking: Choosing and Institutional Design for Implementing the Sustainable Development Goals (SDGs). Discussion Paper / Deutsches Institut für Entwicklungspolitik (DIE), Bonn. ● BÜNNING, F. 2012: Perceptions of science and technology in developed and developing countries - challenges for technical and vocational educations and training (TVET). The future of vocational education and training in a changing world. - Wiesbaden : VS Verl. für Sozialwiss., S. 273-284, 2012 ● BÜNNING, F.; MUPITA, J.;M ADE, G,-A. 2020: Flipping the technical and vocational classfroom for increased instructional outcomes. Innovation of vocational technology: invotec - Bandung: Universitas Pendidikan Indonesia, Bd. 16.2020, 1, S. 11-21 ● CONCINA, E. 2019: Participatory Teaching Methods for Sustainable Development. In: Leal Filho W. (eds) Encyclopedia of Sustainability in Higher Education. Springer, Cham. P. 1250-1258 https://doi.org/10.1007/978-3-030-11352-0_300193 ● DIEMER, A.; NDIAYE, A.; KHUSHIK, F., PELLAUD, F. 2019: Education for Sustainable Development: a Conceptual and Methodological Approach. Social Science Learning Education Journal Vol. 4. P. 43-51. ● European Commission (EC). 2020: European Skills Agenda For

	Sustainable Competitiveness, Social Fairness and Resilience. ● KRÖNNER,H. 2005: The Contribution of Technical and Vocational Education and Training to Sustainable Development. International Workshop on Workforce Development for the Knowledge Economy, Seoul, Republic of Korea. ● McGUINN et al. 2020: Social Sustainability. Concepts and Benchmarks ● MEADOWS et al. (1972): The limits of growth. The Club of Rome. PDF Download: https://www.clubofrome.org/publication/the-limits-to-growth/ ● PAVLOVA, M. 2009: Technology and Vocational Education Empowering Individuals for the Future Springer Science+Business Media B.V. ● PILZ, M. (2017): Vocational Education and Traning in Times of Economic Crisis: Lessons from Around the World. Springer International Publishing. AG 2017. ● SCHREIBER, J.-R.; SIEGE, H. (ed.) (2016): Curriculum Framework: Education for Sustainable Development. Result of the joint project of the Standing Conference of the German Ministers of Education and Culture (KMK) and the German Federal Ministry of Economic Cooperation and Development (BMZ). Executed by: Engagement Global gGmbH, Bonn. ● TAYLOR,S./ CREECH, H. 2012: Technical–Vocational Education for Sustainable Development in Manitoba. IISD Report ● THIENEMANN, E. 2014: Education for Sustainable Development in Technical and Vocational Education and Training ● THOMAS, E. 2009: Sustainable Development: The Challenges and Prospects for a Sustainability Curriculum.In: ● UN (2015): Sustainable Development Goals. https://www.un.org/sustainabledevelopment/sustainable-development-goals/ ● UNESCO (2017): Education for Sustainable Development Goals: Learning Objectives. United Nations Educational, Scientific and Cultural Organization., Paris. ● UNESCO-UNEVOC. 2006: Orienting Technical and Vocational Education and Training for Sustainable Development. A Dicussion Paper. UNESCO-UNEVOC international Centre for Technical and Vocational Education and Training, Bonn, Germany. ● UNESCO. 2012: Education for Sustainable Development: Sourcebook. Learning & Training Tools No. 4, 2012. ● UNEVOC (Pb.) 2010: Integrating Sustainable Development in Technical and Vocational Education and Training. Six Case Studies from Southern and Eastern Africa ● UNEVOC (Pb.) 2010: Integrating Sustainable Development in Technical and Vocational Education and Training. Six Case Studies from Southern and Eastern Africa

	● UNEVOC. 2017: Greening Technical and Vocational Education and Training. A practical guide for institutions. Messner Medien GmbH, Bonn. ● United Nations World Commission on Environment and Development (ed.) (1987): *Report of the World Commission on Environment and Development: Our Common Future*. Oxford: Oxford University Press, 1987. ● VOLKOFF, V. 2009: The TVET Response to the Challenges of Sustainable Development: Towards a Synthesis ● WHITBY, A. 2019: Advancing Education for Sustainable Development: Key Success Factors for Policy and Practice. Policy Handbook. World Futurew Council Foubdation
Additional Literature	● AGRITRAIN 2020: Training Curriculum Training for Teachers and Trainers in the Field of Sustainable Development PECO Institut e.V Berlin ● BIBB (Pb.) 2009: Vocational education and training for sustainable development: backgrounds, activities, initial results ● BIBB (Pb.) 2013: Ordinance on Vocational Education and Training in the Occupation of Mechatronics Fitter ● KRÖNNER, H, 2005: The Contribution of Technical and Vocational Education and Training to Sustainable Development
Additional information/ conditions	Due to the higthend interest in the subject matter and the variety of possible angles to approach concepts of sustainabilty this course is not based on a single textbook. Instead the receommended literature includes a wide range of textbooks that could be used as reference points interchangeably. Furthermore, presented papers and additional material will be added and brought to the attention of the students to disucss the subject matter based on the newest developments in research and politics.

Content of the teaching course

Weeks	Topics	Literature and other teaching resourses
I	Definitions of Sustainable Development Conceptions of Sustainable Development	● Power point slides based on the key topic ● Relevant Article in PDF Format ● McGUINN et al. 2020: Social Sustainability. Concepts and Benchmarks ● United Nations World Commission on Environment and Development (ed.) (1987): *Report of the World Commission on Environment and Development: Our Common Future*. Oxford: Oxford University Press, 1987.

		• UN (2015): Sustainable Development Goals. https://www.un.org/sustainabledevelopment/sustainable-development-goals/
II	Interpretations and Limitations of Sustainable Development	• Power point slides • Relevant Article in PDF Format • McGUINN et al. 2020: Social Sustainability. Concepts and Benchmarks • THIENEMANN, E. 2014: Education for Sustainable Development in Technical and Vocational Education and Training • MEADOWS et al. (1972): The limits of growth. The Club of Rome. PDF Download: https://www.clubofrome.org/publication/the-limits-to-growth/
III	Role of VET in Sustainable Development Approaches	• Power point slides • Video Project Examples • KRÖNNER,H. 2005: The Contribution of Technical and Vocational Education and Training to Sustainable Development. International Workshop on Workforce Development for the Knowledge Economy, Seoul, Republic of Korea. • UNESCO-UNEVOC. 2006: Orienting Technical and Vocational Education and Training for Sustainable Development. A Dicussion Paper. UNESCO-UNEVOC international Centre for Technical and Vocational Education and Training, Bonn, Germany. • Pilz, M. (2017): Vocational Education and Traning in Times of Economic Crisis: Lessons from Around the World. Springer International Publishing. AG 2017.
IV	Values in Technological Education	• Power point slides • Relevant Article in PDF Format • PAVLOVA, M. 2009: Technology and Vocational Education Empowering Individuals for the Future Springer Science+Business Media B.V. • BÜNNING, F.; MUPITA, J.;M ADE, G,-A. 2020: Flipping the technical and vocational classfroom for increased instructional outcomes. Innovation of vocational technology: invotec - Bandung: Universitas Pendidikan Indonesia, Bd. 16.2020, 1, S. 11-21 • BÜNNING, F. 2012: Perceptions of science and technology in developed and developing countries - challenges for technical and vocational educations and training (TVET).

		The future of vocational education and training in a changing world. - Wiesbaden : VS Verl. für Sozialwiss., S. 273-284, 2012
V	Education for Sustainable Development and Technological Education	● Relevant Article in PDF Format ● PAVLOVA, M. 2009: Technology and Vocational Education Empowering Individuals for the Future Springer Science+Business Media B.V. ● UNESCO (2017): Education for Sustainable Development Goals: Learning Objectives. United Nations Educational, Scientific and Cultural Organization., Paris.
VI	Education for Sustainable Development: Key Concepts	● Power point slides ● Relevant Article in PDF Format ● THIENEMANN, E. 2014: Education for Sustainable Development in Technical and Vocational Education and Training ● UNESCO. 2017: Education for Sustainable Development Goals: Learning Objectives. United Nations Educational, Scientific and Cultural Organization., Paris. ● SCHREIBER, J.-R.; SIEGE, H. (ed.) 2016: Curriculum Framework: Education for Sustainable Development. Result of the joint project of the Standing Conference of the German Ministers of Education and Culture (KMK) and the German Federal Ministry of Economic Cooperation and Development (BMZ). Executed by: Engagement Global gGmbH, Bonn. ● DIEMER, A.; NDIAYE, A.; KHUSHIK, F., PELLAUD, F. 2019: Education for Sustainable Development: a Conceptual and Methodological Approach. Social Science Learning Education Journal Vol. 4. P. 43-51. ● European Commission (EC). 2020: European Skills Agenda For Sustainable Competitiveness, Social Fairness and Resilience.
VII	Implementation Approaches: Case Studies	● Power point slides ● Relevant Article in PDF Format ● UNEVOC (Pb.). 2010: Integrating Sustainable Development in Technical and Vocational Education and Training. Six Case Studies from Southern and Eastern Africa ● THIENEMANN, E. 2014: Education for Sustainable Development in Technical and Vocational Education and Training
VIII	Teaching Methods for Sustainable Development: Project Method	● Power Point Presentation KAUR, M. ● Documentaries (video) ● Relevant Article in PDF Format

		• UNESCO. 2012: Education for Sustainable Development: Sourcebook. Learning & Training Tools No. 4, 2012.
IX	Teaching Methods for Sustainable Development: Students Firms	• Power point slides • Videos • Relevant Article in PDF Format • UNESCO (2012): Education for Sustainable Development: Sourcebook. Learning & Training Tools No. 4, 2012. • CONCINA, E. 2019: Participatory Teaching Methods for Sustainable Development. In: Leal Filho W. (eds) Encyclopedia of Sustainability in Higher Education. Springer, Cham. P. 1250-1258 https://doi.org/10.1007/978-3-030-11352-0_300193
X	Developing a Sustainability Project in a Vocational Institution	• Power point slides • Relevant Article in PDF Format • WHITBY, A. 2019: Advancing Education for Sustainable Development: Key Success Factors for Policy and Practice. Policy Handbook. World Futurew Council Foubdation
XI	Implementation of Sustainable Development: Curriculum Development	• Power point slides • Relevant Article in PDF Format • SCHREIBER, J.-R.; SIEGE, H. (ed.). 2016: Curriculum Framework: Education for Sustainable Development. Result of the joint project of the Standing Conference of the German Ministers of Education and Culture (KMK) and the German Federal Ministry of Economic Cooperation and Development (BMZ). Executed by: Engagement Global gGmbH, Bonn. • BIBB (Pb.) 2013: Ordinance on Vocational Education and Training in the Occupation of Mechatronics Fitter
XII	Implementation of Sustainable Development: Teachers Qualification	• Power point slides • Relevant Article in PDF Format • PAVLOVA, M. 2009: Technology and Vocational Education Empowering Individuals for the Future Springer Science+Business Media B.V.
XIII	Implementation of Sustainable Development: Outlining conceptional ideas and examples	• Power point slides • Relevant Article in PDF Format • Institutions Websites (examples) • BREUER, A.; LEININGER, J.; TOSUN, J. 2019: Integrated Polcymaking: Choosing and Institutional Design for Implementing the Sustainable Development Goals (SDGs). Discussion Paper / Deutsches Institut für Entwicklungspolitik (DIE), Bonn.

		● UNEVOC. 2017: Greening Technical and Vocational Education and Training. A practical guide for institutions. Messner Medien GmbH, Bonn.
XIV	Implementation of Sustainable Development: Conception for a Vocational Institution	● Power point slides ● Relevant Article in PDF Format ● BREUER, A.; LEININGER, J.; TOSUN, J. 2019: Integrated Polcymaking: Choosing and Institutional Design for Implementing the Sustainable Development Goals (SDGs). Discussion Paper / Deutsches Institut für Entwicklungspolitik (DIE), Bonn. ● UNEVOC. 2017: Greening Technical and Vocational Education and Training. A practical guide for institutions. Messner Medien GmbH, Bonn.
XV	Implementation of Sustainable Development in a vocational Institution: Challenges	● Keynote presentations to given concepts ● Identification of challenges and discussion of own perceived challenges and soving strategies ● Presentation of concept ideas and challenges in Group discussion
Assignment: Conception for the Implementation of Sustainable Development in a Vocational Institution		

Module 8: Teaching and Learning in Natural and Virtual Learning Environments

Title of the teaching course	Teaching and Learning in Natural and Virtual Learning Environments
Author(s) of the Course	Prof. Dr. Bünning, Dr. Ing. Tina Haase, H. Tegelbeckers, M. Martsch, Assoc. Prof. Rusudan Sanadze
Lecturer(s) of the Course	Assoc. Prof. Rusudan Sanadze
Status of the course	1. Faculty of Psychology and Educational Sciences
	2. Doctoral program "Education"
	3. Elective
	4. English language instructed
ECTS	Credits (ECTS): 5 (125 hours) Contract hours throughout semester: 30 h These hours are distributed as it follows: ● Seminars 30 h Students' independent working hours: 95 h
Prerequisites	NA
Objectives of the teaching course	1. present relevant cognitive scientific theoretic fields and focus them based on the current state of research 2. overview of theories and models for designing learning processes in technical working and learning environments 3. Analysis of selected research questions regarding aspects of learning (e.g. perception, interaction, social action) in natural and virtual environments 4. design of learning environments and learning situations in technical working and learning environments 5. ability to present and reflect the research process and result 6. Interactive learning environments as part of todays processes in-the-job and off-the-job 7. Conception and implementation of a virtual learning environment ● Teaching an technical or didactic principle ● Reflection on target group, content and structure ● Include assessments
Learning outcomes	Upon completion of the course, the student will be able to: ● Comprehension of the principals of virtual and augmented reality ● Understand of human-computer-interaction

	● strengths and limitations of VR technology ● Knowing about the role of constructivist didactics and methods in VR/AR applications ● Determine the key aspects of virtual learning environments ● Understand the present and future of VR/AR ● using VR/AR technology to conduct scientific research ● construct simple immersive environments ● Produce a strategic plan for a virtual reality application ● Apply a pedagogic model to create a virtual reality application ● developing a VR-based application
Course content	Course content ● Theories and models of (especially cognitive) psychological concepts of appropriation ● Work process-oriented forms of learning and learning methods ● virtual working and learning environments as new media of vocational learning ● theoretical and methodological basics of impact research in the field of research ● Current international scientific knowledge
Teaching and learning methods	Lecture, Practical tasks, discussion, analysis and synthesis method, independent work.
Course Assignments and grading	20 points per activities in the class 18-20 scores - The student is always prepared for lecture / seminar; he/she has read the materials; is actively involved in interactive work; during the discussion he/she always relies upon the relevant materials; always delivers the substantiated, original ideas; always makes a significant contribution to the discussion. 14-17 scores - The student is mostly prepared for lecture / seminars; he/she has read the most of the reading materials; he/she is mostly involved in interactive work; during the discussion he/she mostly relies upon the relevant materials; he/she mostly expresses the substantiated, original ideas; makes significant contribution to the discussion. 9-13 scores –The student is prepared for lecture / seminar, although sometimes his/her preparedness is not adequate; he/she has partially read the materials; the student is involved in interactive work, although sometimes the level of his/her activity is low; during the discussion relies upon the relevant materials in some cases; expresses his/her opinion during discussion, although they often lack the justification; he/she makes a certain contribution to the discussion. 1-8 Scores - The student is mostly unprepared for lecture / seminar; he/she has rarely read the materials; the student is rarely engaged in interactive work; during discussion he/she rarely expresses reasoned

	opinions; rarely makes significant contribution to the discussion. 0 score – Student doesn't participate in activities and isn't papered for lectures and seminars Midterm assignment: 20 points per oral seminar work (2 seminar works) **9-10 points: The work is performed;** The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained in the thesis. **7-8 points : The work is performed** ; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing is maintained. **5-6 points: The work is performed incompletely**: The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style. **3-4 points: The work is performed incompletely;** The material is processed in part; The student is not sufficiently aware of the material envisaged by the program. There are important shortcomings in maintaining the academic style. **1-2 points : The work is imperfect;** Only separate fragments of the task are processed. There are important shortcomings in maintaining the academic style. **0 points** – The work is not presented. 40 points for final assignment (4 tasks, each -10 points) **9-10 points:** The work is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. TSU scientific online databases have been carefully studied. **7-8 points:** The work is performed; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. TSU scientific online

	databases have been worked out. **5-6 points:** The work is performed incompletely; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. TSU scientific electronic databases are not sufficiently worked out. **3-4 points:** The work is performed incompletely; The material is processed in part; The student is not sufficiently aware of by the program. TSU scientific databases are not worked out. There are important shortcomings in maintaining the academic style. **1-2 points:** The work is imperfect; Only separate fragments of the task are processed. TSU scientific online databases are not used. **0 points** - the assignment is not provided ● present relevant cognitive scientific theoretic fields and focus them based on the current state of research ● overview of theories and models for designing learning processes in technical working and learning environments ● Analysis of selected research questions regarding aspects of learning (e.g. perception, interaction, social action) in natural and virtual environments ● design of learning environments and learning situations in technical working and learning environments ● Work process-oriented forms of learning and learning methods ● virtual working and learning environments as new media of vocational learning ● ability to present and reflect the research process and results ● active participation ● preparation of an interactive learning environment The minimum competence limit for the intermediate assessment is 20 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 21 points
Basic literature The reader for the course would is designed according to the presented literature	● Annetta, L. A., Folta, E., & Klesath, M. (2010). *V-Learning: Distance education in the 21st century through 3D virtual learning environments*. Springer Science & Business Media. ● Aoun, J.E. (2017). Robot-Proof: Higher Education in the Age of Artificial Intelligence. Boston, MA: MIT Press. ● Barker, Jenny and Gossman, Peter (2013) *The learning impact of a virtual learning environment: students' views*. Teacher Education Advancement Network Journal (TEAN), 5 (2). pp. 19-38

- Brown, G.T.L. (2017). Assessment of Student Achievement. London: Routledge.
- Brown, G.T.L. (2017). Assessment of Student Achievement. London: Routledge.
- Buchner, J. & Andujar, A. (2019): The expansion of the classroom through mobile immersive learning. In: Proceedings of the 15th International Conference Mobile Learning 2019 Utrecht: iadis. p. 89–95.
- Budhair, S.S. & Skipwith, K. (2017). Best Practices in Engaging Online Learners Through Active and Experiential Learning Strategies. London: Routledge.
- Detering, S. (2014): The Ambiguity of Games: Histories and Descourses of a Gameful World. In: Walz, Steffen P./ Detering, Sebastian (eds.): The Gameful World. Approches, Issues, Applications. Cambridge: MIT Press.
- Dillenbourg, P.; Schneider, D.; Paraskevi; S. (2002): Virtual Learning Environments. 3rd Hellenic Conference "Information & Communication Technologies in Education", Rhodes, Greece.
- Distance Learning Strategic Plan - A Guide for Primary and Secondary Education Systems to Implement Distance Learning, in partnership with UNESCO Global Education Coalition.
- E. Huertas, I. Biscan, and authors - Considerations for quality assurance of e-learning provision, Report from the ENQA Working Group VIII on quality assurance and e-learning Occasional Papers 26
- Geroimenko, V. (2020). *Augmented Reality in Education: A New Technology for Teaching and Learning*. Zürich: Springer Nature.
- Green, T.D. & Brown, A.H. (2017). The Educators Guide to Developing New Media and Open Education Resources. London: Routledge.
- Haase, T., Radde, J., Keller, A., Berndt, D., & Dick, M. (2020). Integrated Learning and Assistive Systems for Manual Work in Production-Proposal for a Systematic Approach to Technology Selection and Design. In International Conference on Applied Human Factors and Ergonomics (pp. 853-859). Springer, Cham.
- Haase, T.; Termath, W.; Berndt, D.; Dick, M. (2020): Assistive Technologies: Companion or Controller? – Appropriation Instead of Instruction. In: The Journal on Systemics, Cybernetics and Informatics: JSCI. Volume 18 - Number 7 - Year 2020, pp. 13-18. ISSN: 1690-4524 (Online). http://www.iiisci.org/journal/sci/issue.asp?is=ISS2007
- Haase, T.; Termath, W.; Berndt, D.; Dick, M. (2020): Learning in the process of work - wish or reality? An interdisciplinary approach to designing technology-based learning and

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- Harasim, L. (2017). Learning Theory and Online Technologies. London: Routledge.Jerald, J. (2015). *The VR book: Human-centered design for virtual reality*. Morgan & Claypool.
- Helge Fischer, H.; Arnold, M.; Philippe, S.; Dyrna, J.; & Jung, S. (2021): VR-BASED LEARNING AND TEACHING. A FRAMEWORK FOR IMPLEMENTATION OF VIRTUAL REALITY IN FORMAL EDUCATION
- Inayat, I., ul Amin, R., Inayat, Z., & Badshah, K. (2013). A Collaborative Framework for Web based Vocational Education and Training (VET); Findings from a Case Study. *International Journal of Modern Education and Computer Science*, *5*(12), 54.
- Inayat, I., ul Amin, R., Inayat, Z., & Salim, S. S. (2013). Effects of collaborative web based vocational education and training (VET) on learning outcomes. *Computers & education*, *68*, 153-166
- Khare, A. & Hurst, D. (2017). On the Line – Business Education in the Digital Age. Cham, Switzerland: Springer.
- Owen, M. (2000). Paradigms for curriculum design: The design of reflective, situated, collaborative professional development supported by virtual learning environments. *European Journal of Open, Distance and E-learning*, *3*(2).
- Poritz, J.A. & Rees, J. (2017). Education is Not an App: The Future of University Teaching in the Internet Age. London: Routledge.
- Sandy Britain, Oleg Liber (2004): A framework for pedagogical evaluation of virtual learning environments.
- Tobin, J.T., Mandernach, J. & Taylor, A.H. (2015). Evaluating Online Teaching – Best Practices. San Francisco: Jossey Bass.
- Wonacott, M. E. (2002). *Blending face-to-face and distance learning methods in adult and career-technical education*. ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment, College of Education, the Ohio State University.
- Zhigeng Pana, Adrian David Cheokb, Hongwei Yanga, Jiejie Zhua, Jiaoying Shia (2006): Virtual reality and mixed reality for virtual learning environments. Computer & Graphics 30

	(2006), p. 20-28. https://www.sciencedirect.com/science/article/pii/S0097849305002025
Additional Literature	• Bailenson; J.N., Yee, N.; Blascovich, J.; Beall, A.C.; Lundblad, N.& Jin, Michael (2008): The Use of Immersive Virtual Reality in the Learning Sciences: Digital Transformations of Teachers, Students, and Social Context. In: The Journal of the Learning Sciences, 17 (1), p. 102-142. https://doi.org/10.1080/10508400701793141 • Bateson, P. & Martin, P. (2013): Play, Playfulness, Creativity and Innovation. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139057691 • Buchner, J. & Andujar, A. (2019): The expansion of the classroom through mobile immersive learning. In: Proceedings of the 15th International Conference Mobile Learning 2019 Utrecht: iadis. p. 89–95. • Cochrane, T. (2016) Mobile VR in Education: From the Fringe to the Mainstream. In: International Journal of Mobile and Blended Learning 8 (4): 44–60. https://doi.org/10.4018/IJMBL.2016100104 • Fuchs, M.; Fizek, S.; Ruffino, P. & Schrape, N. (2014): Rethinking Gamification.Lüneburg: meson press. • Maas, M. J. & Hughes, J. M.(2020): Virtual, Augmented and Mixed Reality in K–12 Education: A Review of the Literature. In:Technology, Pedagogy and Education p. 231-249bhttps://doi.org/10.1080/1475939X.2020.1737210 • Parong, J. & Mayer, R. E. (2018):Learning Science in Immersive Virtual Reality. In: Journal of Educational Psychology 110 (6): p. 785–97 https://doi.org/10.1037/edu0000241

Content of the teaching course

Weeks	Topics	Literature and other teaching resources
Week 1	E-Learning Foundations and History of E-learning Introduction, Power Point slides, discussion	• Power point slides based on the key topic • Relevant Article in PDF Format • Aoun, J.E. (2017). Robot-Proof: Higher Education in the Age of Artificial Intelligence. Boston, MA: MIT Press. • Harasim, L. (2017). Learning Theory and Online Technologies. London: Routledge. • Khare, A. & Hurst, D. (2017). On the Line – Business Education in the Digital Age. Cham, Switzerland: Springer. • Buchner, J. & Andujar, A. (2019): The expansion of the classroom through mobile

		immersive learning. In: Proceedings of the 15th International Conference Mobile Learning 2019 Utrecht: iadis. p. 89–95
Week 2	Pedagogic models for creating e-content and strategic planning for e-learning courses Power Pont slides, work in groups, brainstorming	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Poritz, J.A. & Rees, J. (2017). Education is Not an App: The Future of University Teaching in the Internet Age. London: Routledge. ● Distance Learning Strategic Plan - A Guide for Primary and Secondary Education Systems to Implement Distance Learning, in partnership with UNESCO Global Education Coalition. ● Aoun, J.E. (2017). Robot-Proof: Higher Education in the Age of Artificial Intelligence. Boston, MA: MIT Press. ● Budhair, S.S. & Skipwith, K. (2017). Best Practices in Engaging Online Learners Through Active and Experiential Learning Strategies. London: Routledge.
Week 3	Introduction to Virtual Learning Environments in Vocational Education and Training Power Point slides, work in groups, brainstorming, discussion	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Haase, Tina (2014): On the significance of vocational pedagogy for the development of virtual learning and working environments. Magdeburg (Symposium ,International Requirements, Developments & Tendencies in the Professionalisation of TVET Personnel‘q, Workshop "In-company training personnel"). ● Annetta, L. A., Folta, E., & Klesath, M. (2010). *V-Learning: Distance education in the 21st century through 3D virtual learning environments*. Springer Science & Business Media. ● Owen, M. (2000). Paradigms for curriculum design: The design of reflective, situated, collaborative professional development supported by virtual learning environments. *European Journal of Open, Distance and E-learning*, *3*(2).
Week 4	Designing technology-based learning and assistance systems to promote learning	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Inayat, I., ul Amin, R., Inayat, Z., & Badshah, K. (2013). A Collaborative Framework for Web based Vocational Education and Training (VET); Findings

		from a Case Study. *International Journal of Modern Education and Computer Science*, *5*(12), 54. ● Inayat, I., ul Amin, R., Inayat, Z., & Salim, S. S. (2013). Effects of collaborative web based vocational education and training (VET) on learning
Week 5	Integrated Learning and Assistive Systems for Manual Work Power Point slides, practical tasks	● Power point slides based on the key topics ● Relevant Article in PDF Format ● Haase, T., Radde, J., Keller, A., Berndt, D., & Dick, M. (2020). Integrated Learning and Assistive Systems for Manual Work in Production-Proposal for a Systematic Approach to Technology Selection and Design. In International Conference on Applied Human Factors and Ergonomics (pp. 853-859). Springer, Cham. ● Haase,T.; Termath, W.;Berndt, D.; Dick, M. (n.y.): Learning in the process of work – wish or reality? An Intersdisciplinary approach to designing technology-based learning and assistance systems to promote learning
Week 6	Strategic Planning for e-learning courses and e-content development Practical tasks, work in groups, discussion	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Dillenbourg, P.; Schneider, D.; Paraskevi; S. (2002): Virtual Learning Environments. 3rd Hellenic Conference "Information & Communication Technologies in Education", Rhodes, Greece. ● Zhigeng Pana, Adrian David Cheokb, Hongwei Yanga, Jiejie Zhua, Jiaoying Shia (2006): Virtual reality and mixed reality for virtual learning environments. Computer & Graphics 30 (2006), p. 20-28.
Week 7	Planning and implementing e-assessments and different feedback types Practical tasks	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Brown, G.T.L. (2017). Assessment of Student Achievement. London: Routledge. ● Tobin, J.T., Mandernach, J. & Taylor, A.H. (2015). Evaluating Online Teaching – Best Practices. San Francisco: Jossey Bass.
Week 8	Gamification Practical tasks, training/testing gamification, project concepts	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Detering, S. (2014): The Ambiguity of Games: Histories and Descourses of a Gameful World. In: Walz, Steffen P./ Detering, Sebastian (eds.): The Gameful

		World. Approches, Issues, Applications. Cambridge: MIT Press. ● Green, T.D. & Brown, A.H. (2017). The Educators Guide to Developing New Media and Open Education Resources. London: Routledge. ● Bateson, P. & Martin, P. (2013): Play, Playfulness, Creativity and Innovation. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139057691
Week 9	Quality Assurance in E-Learning Project execution discussion, draft discussion	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Tobin, J.T., Mandernach, J. & Taylor, A.H. (2015). Evaluating Online Teaching – Best Practices. San Francisco: Jossey-Bass. ● E. Huertas, I. Biscan, and authors - Considerations for quality assurance of e-learning provision, Report from the ENQA Working Group VIII on quality assurance and e-learning Occasional Papers 26
Week 10	Quality Assurance in E-Learning draft discussion, project presentations	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Tobin, J.T., Mandernach, J. & Taylor, A.H. (2015). Evaluating Online Teaching – Best Practices. San Francisco: Jossey-Bass. ● E. Huertas, I. Biscan, and authors - Considerations for quality assurance of e-learning provision, Report from the ENQA Working Group VIII on quality assurance and e-learning Occasional Papers 26
Week 11	Didactical and Methodological planning of VR Content Practical tasks, work in groups, project discussion, In-class project	● Power point slides based on the key topic ● Example Products in Video and Trial Format ● Definition of Learning goals and didactical and methodological outline in own worksetup
Week 12	Designing a Learning Environment with *Articulate 360 – Part I* *Practical tasks, design tests, basic concepts of 3D modelling*	● Power point slides based on the key topic ● Relevant Article in PDF Format ● Prototype Development with Tutorsupport ● F&Q session for most common problems, Grouplearning and Problem solving ● open Discussion board
Week 13	Designing a Learning Environment with *Articulate 360 – Part II* *Practical tasks, design test, basic*	● Power point slides based Student feedback over the the implementation trial (FAQ Database) ● Group Discussions, online feedback via

	concepts of 3D modelling	Zoom
Week 14	Project Test and Evaluation Phase	● Power point slides based Student feedback over the the implementation trial (FAQ Database) ● Group Discussions, online feedback via Zoom, Project Trial and hands on feedback

Module 9: Teaching and Learning Methods

Title of the teaching course	VET Teaching and Learning Methods
Author(s) of the Course	Prof. Dr. Roland Happ, Sebastian Heidel, M.Sc.; Assoc. Prof. Ivane Mindadze
Lecturer(s) of the Course	Assoc. Prof. Ivane Mindadze
Status of the Course	5. Faculty of Economics and Management Science, UL 6. PhD Program Education 7. Elective 8. English Language Instructed
ECTS	Credits (ECTS): 5 (125 hours) Contact hours throughout semester: 30 h (Seminars) Students´ independent working hours: 95 h
Prerequisites	Students need to have basic knowledge on the following areas: ● English language
Goals of the teaching course	**Subject-specific competence**: Knowledge of general didactic models, subject-specific didactic approaches and their relationship to each other as well as their genesis, possible applications and empirical verifiability. Knowledge of the historical development of subject didactics and the scientific-systematic classification of various models, approaches and theories of general and subject didactics. Ability to independently classify and scientifically-critically evaluate general and subject didactics approaches. **Personal competence**: Ability and willingness to analyze general and subject didactic approaches, concepts and models in a team, to select them in a way that is appropriate to the objectives and content and to orient the joint planning of teaching activities to the learning field concept of vocational education (social competence); ability and willingness to independently and responsibly select and use subject didactic approaches in the planning of teaching-learning, qualification and educational processes (independence).
Learning outcomes	- know the most important theories and results on development in adolescence and adulthood; - are able to evaluate the appropriateness as well as advantages and disadvantages of learning environments and instructional concepts

	on the basis of knowledge of modern developmental psychology; - The subject, position and function of the didactics of economics; - Approaches to business education, continuing business education and management training; - Relationship of subject didactics to general didactics; - General didactic basic concepts; - Didactic currents and concepts in vocational and business education from a historical and scientific-systematic perspective; - Subject didactics and empirical testability; - Subject didactics and curriculum development; Subject didactics and subject science The minimum competence limit for the intermediate assessment is 20 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 21 points
Teaching and learning methods	Presentation, discussion, role play, peer evaluation, various social formats and medias (video, audio, etc.)
Course Assignments and grading	20 points per activities in the class 18-20 scores - The student is always prepared for lecture / seminar; he/she has read the materials; is actively involved in interactive work; during the discussion he/she always relies upon the relevant materials; always delivers the substantiated, original ideas; always makes a significant contribution to the discussion. 14-17 scores - The student is mostly prepared for lecture / seminars; he/she has read the most of the reading materials; he/she is mostly involved in interactive work; during the discussion he/she mostly relies upon the relevant materials; he/she mostly expresses the substantiated, original ideas; makes significant contribution to the discussion. 9-13 scores –The student is prepared for lecture / seminar, although sometimes his/her preparedness is not adequate; he/she has partially read thematerials; the student is involved in interactive work, although sometimes the level of his/her activity is low; during the discussion relies upon the relevant materials in some cases; expresses his/her opinion during discussion, although they often lack the justification; he/she makes a certain contribution to the discussion. 1-8 Scores - The student is mostly unprepared for lecture / seminar; he/she has rarely read the materials; the student is rarely engaged in interactive work; during discussion he/she rarely expresses reasoned opinions; rarely makes significant contribution to the discussion. 0 score – Student doesn't participate in activities and isn't papered for lectures and seminars Midterm assignment: 20 points per oral seminar work (2 seminar works)

	9-10 points: The work is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. The academic style of writing is maintained in the thesis. **7-8 points : The work is performed** ; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. The academic style of writing is maintained. **5-6 points: The work is performed incompletely**: The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. There are gaps in maintaining the academic style. **3-4 points: The work is performed incompletely;** The material is processed in part; The student is not sufficiently aware of the material envisaged by the program. There are important shortcomings in maintaining the academic style. **1-2 points : The work is imperfect;** Only separate fragments of the task are processed. There are important shortcomings in maintaining the academic style. **0 points** – The work is not presented. 40 points for final assignment (4 tasks, each -10 points) **9-10 points:** The work is performed; The set task is accurately and thoroughly worked out. The student is thoroughly aware of the material provided by the program, has developed the high academic skills envisaged by the program. TSU scientific online databases have been carefully studied. **7-8 points:** The work is performed; The set task is well performed, there is no substantial mistake; The student is well aware of the past material provided by the program; The good academic skills envisaged by the program are generated. TSU scientific online databases have been worked out. **5-6 points:** The work is performed incompletely; The issue is satisfactorily reported; The student is aware of the material provided by the program but indicates the need for someone else's assistance to complete the task. TSU scientific electronic databases are not

	sufficiently worked out. **3-4 points:** The work is performed incompletely; The material is processed in part; The student is not sufficiently aware of by the program. TSU scientific databases are not worked out. There are important shortcomings in maintaining the academic style. **1-2 points:** The work is imperfect; Only separate fragments of the task are processed. TSU scientific online databases are not used. **0 points** - the assignment is not provided The minimum competence limit for the intermediate assessment is 20 points, without exceeding which, the doctoral candidate will not be admitted to the final assessment. The minimum competence limit for the final assessment is at least 21 points.
Compulsory literature *The Reader is designed according to the presented materials*	Anderson, L. W., Krathwohl, D. R., & Bloom, B. S. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman. Berger, C. R. (2014). Interpersonal Communication. In: P. J. Schulz, P. Cobley. *Handbooks of Communication Science* (Vol. 6). De Gruyter. Bloom, B. S. (1969). *Taxonomy of educational objectives: The classification of educational goals: Handbook I, Cognitive domain*. McKay. Bronfenbrenner, U. (1979). *The Ecology of Human Development. Experiments by Nature and Design.* Harvard University Press. Cannon, M. (2018). *Digital Media in Education: Teaching, Learning and Literacy Practices with Young Learners* (Softcover reprint of the original 1st ed. 2018.). Springer Nature Switzerland AG. Caspersen, J., Smeby, J-C., Aamondt, P. O. (2017). Measuring learning outcomes. *European Journal of Education, Research, Development and Policy, 52(1), 20–30.* https://doi.org/10.1111/ejed.12205 Deci, E. L. (2009). Large-scale school reform as viewed from the self-determination theory perspective. *Theory and Research in Education*, *7*(2), 244–252. https://doi.org/10.1177/1477878509104329 Deci, E & Ryan, R. (2002). Handbook of Self-Determination Research. University of Rochester Press. Deci, E. & Ryan, R. (1985). *Intrinsic motivation and Self-Determination in human behavior*. Plenum Press. De Florio-Hansen, I. (2016). *Effective teaching and successful learning: Bridging the gap between research and practice*. Cambridge University Press. Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and

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Emmer, E T. (2013). *Classroom management for middle and high school teachers.* Pearson.

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Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology, 105*(3), 774–786. https://doi.org/10.1037/a0032198

Hughes, J. N., Luo, W., Kwok, O. M., & Loyd, L. K. (2008). Teacher-Student Support, Effortful Engagement, and Achievement: A 3-Year Longitudinal Study. *Journal of educational psychology*, *100*(1), 1–14. https://doi.org/10.1037/0022-0663.100.1.1

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Munzenmaier, C., & Rubin, N. (2013). Bloom's taxonomy: What's old is new again. *The eLearning Guild*, 1-47.

Pilz, M. (2012). *The Future of Vocational Education and Training in a Changing World*. Wiesbaden.

Richardson, V. (2002). *Handbook of research on teaching* (4. ed., 1st impression.). American Educational Research Association.

Schunk, D. H. (2012). *Learning theories: An educational perspective* (6. ed., internat. ed.). Pearson.

Solga, H., Protsch, P., Ebner, C., Brzinsky-Fay, C. (2014). *The German vocational education and training system: Its institutional configuration, strengths, and challenges.* Wissenschaftszentrum Berlin für Sozialforschung (WZB).

Wittrock, M. C. (2006). Handbook of research on teaching (3. Ed). Macmillan.

Content of the teaching course

Weeks	Topics (lecture/working group/practical, lab work, etc.)	Literature and other teaching resourses
I	**Introduction event - Disciplin of Business and Vocational Education**	Presentation (always includes PowerPoint-Slides), discussion Pilz, M. (2012). *The Future of Vocational Education and Training in a Changing World*. Wiesbaden.
II	**References to Developmental Psychology – the ecological-orientated approach of BRONFENBRENNER**	Presentation, discussion, Bronfenbrenner, U. (1979). *The Ecology of Human Development. Experiments by Nature and Design.* Harvard University Press.
III	**Fundamentals of the German vocational education system – international transferability**	Presentation, discussion, Solga, H., Protsch, P., Ebner, C., Brzinsky-Fay, C. (2014). *The German vocational education and training system: Its institutional configuration, strengths, and challenges.* Wissenschaftszentrum Berlin für Sozialforschung (WZB).
IV	**Fundamentals of didactics for vocational teaching and instructional contexts.**	Presentation, discussion, Pilz, M. (2012). *The Future of Vocational Education and Training in a Changing World*. Wiesbaden.
V	**Helmke's supply-use-model and the Hattie study**	Presentation, discussion, Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge. Hascher, T., & Hagenauer, G. (2016). Openness to theory and its importance for pre-service teachers' self-efficacy, emotions, and classroom behaviour in the teaching practicum. *International Journal of Educational Research, 77*, 15–25.
VI	**Formulate cognitive learning goals – Initiate teaching-learning processes.**	Presentation, discussion, Anderson, L. W., Krathwohl, D. R., & Bloom, B. S. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman. Bloom, B. S. (1969). *Taxonomy of educational objectives: The classification of educational goals: Handbook I, Cognitive domain*. McKay. Munzenmaier, C., & Rubin, N. (2013). Bloom's taxonomy: What's old is new again. *The eLearning Guild*, 1–47.

VII	**Knowledge Acquisition - Learning Theories I**	Presentation, discussion, Schunk, D. H. (2012). *Learning theories: An educational perspective* (6. ed., internat. ed.). Pearson.
VIII	**Knowledge Acquisition - Learning Theories I**	Presentation, discussion, Schunk, D. H. (2012). *Learning theories: An educational perspective* (6. ed., internat. ed.). Pearson.
IX	**"Good teaching/good instruction" - What factors influence learning success?**	Presentation, discussion, De Florio-Hansen, I. (2016). *Effective teaching and successful learning: Bridging the gap between research and practice*. Cambridge University Press. Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, *14*(1), 4–58. Emmer, E T. (2013). *Classroom management for middle and high school teachers.* Pearson. Evertson, C M. (2011). *Handbook of classroom management: Research, practice, and contemporary issues*. Routledge. Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology, 105*(3), 774–786. https://doi.org/10.1037/a0032198 Hughes, J. N., Luo, W., Kwok, O. M., & Loyd, L. K. (2008). Teacher-Student Support, Effortful Engagement, and Achievement: A 3-Year Longitudinal Study. *Journal of educational psychology*, *100*(1), 1–14. https://doi.org/10.1037/0022-0663.100.1.1 Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology, 105*(3), 805–820. https://doi.org/10.1037/a0032583 Richardson, V. (2002). *Handbook of research on teaching* (4. Ed.). American Educational Research Association. Wittrock, M. C. (2006). Handbook of research on teaching (3. Ed). Macmillan.
X	**Motivation and Learning Success - Implications for Education and Training**	Presentation, discussion, Deci, E. L. (2009). Large-scale school reform as viewed from

		the self-determination theory perspective. *Theory and Research in Education*, *7*(2), 244–252. https://doi.org/10.1177/1477878509104329 Deci, E & Ryan, R. (2002). Handbook of Self-Determination Research. University of Rochester Press. Deci, E. & Ryan, R. (1985). *Intrinsic motivation and Self-Determination in human behavior*. Plenum Press.
XI	**Heterogeneity - Opportunities and Challenges for the Design of Teaching-Learning Processes**	Presentation, discussion, role play Markic, S., & Abels, S. (2014). Heterogeneity and Diversity: A Growing Challenge or Enrichment for Science Education in German Schools? *Eurasia Journal of Mathematics, Science and Technology Education,* *10*(4), 271–283. https://doi.org/10.12973/eurasia.2014.1082a
XII	**Evaluation standards - Critical examination of performance evaluation criteria.**	Presentation, discussion, role play Caspersen, J., Smeby, J-C., Aamondt, P. O. (2017). Measuring learning outcomes*. European Journal of Education, Research, Development and Policy, 52(1), 20–30.* https://doi.org/10.1111/ejed.12205
XIII	**Digital media - effectiveness for teaching and instruction processes**	Presentation, discussion, Cannon, M. (2018). *Digital Media in Education: Teaching, Learning and Literacy Practices with Young Learners* (Softcover reprint of the original 1st ed. 2018.). Springer Nature Switzerland AG.
XIV	**Communication and interaction - from simple sending and receiving to critical employee discussion**	Presentation, discussion, Berger, C. R. (2014). Interpersonal Communication. In: P. J. Schulz, P. Cobley. *Handbooks of Communication Science* (Vol. 6). De Gruyter.
XV	**Closing event**	Presentation, discussion
Final exam		