



Fall Term 2025

Vocational Education and Innovation: Current Research Topics (S)

Syllabus

This version: September 17, 2025

Module number: MO0251

Lectures: From 08:00 – 12:00 at the following dates: 18.09.2025, 02.10.2025, 16.10.2025, 30.10.2025, 13.11.2025, 27.11.2025, 11.12.2025

Room: SOE-E-2

Lecturer: Prof. Dr. Patrick Lehnert (patrick.lehnert@business.uzh.ch)

Curriculum classification: M: Core elective area: Organization and Human Resources (BWL3), M: Elective area WWF, M: Minor area: Managing Education (MEDU)

ECTS points: 6.0

Course homepage: <https://t.uzh.ch/1Sr>

Registration: Number of participants limited, with priority given to students who have successfully completed the modules mentioned under “prior knowledge.” You need to register by sending your CV and current transcript of records to the lecturer by e-mail until September 7th, 2025.

Prerequisites: Bachelor’s degree

Prior knowledge: Successful completion of the following modules (or equivalent ones): ME1: Personnel Economics, Advanced Microeconomics 1 or Advanced Microeconomics for Business Administration, Empirical Methods or Applied Empirical Methods for Business Administration.

Learning goals:

- Students know and understand the theoretical and institutional foundations on the innovation effects of (dual) vocational education and training.
- Students are familiar with current empirical research on the innovation effects of (dual) vocational education.
- Students can critically review, discuss, and present empirical research findings.

Concept:

The seminar covers current research on the contribution of (dual) vocational education to innovation. In the seminar sessions, the lecturer presents the core theoretical and institutional foundations in this research area. Between seminar sessions, students work on both individual and group assignments. In individual assignments, students review and discuss relevant empirical papers. In group assignments, students present empirical papers in detail in class. All students discuss the presented papers in class, with participation in the discussions also considered in the grading



Literature:

- **Topic overview and theoretical and institutional background**

Backes-Gellner, U., & Lehnert, P. (2021). The contribution of vocational education and training to innovation and growth. In: *Oxford Research Encyclopedia of Economics and Finance*, Oxford University Press.

Backes-Gellner, U., & Lehnert, P. (2023). Apprenticeships. In: T. Eriksson (ed.), *Elgar Encyclopedia of Labour Studies*, Edward Elgar.

Backes-Gellner, U., Renold, U., Tuor Sartore, S. & Wolter, S. C. (2020). Introduction. In: U. Backes-Gellner, U. Renold, & S. C. Wolter (eds.), *Economics and governance of vocational and professional education and training (including apprenticeship)*, chapter 1. hep Verlag.

Wolter, S. C. (2020). Firms. In: U. Backes-Gellner, U. Renold, & S. C. Wolter (eds.), *Economics and governance of vocational and professional education and training (including apprenticeship)*, chapter 3. hep Verlag.

Wolter, S. C., & Ryan, P. (2011). Apprenticeship. In: E. A. Hanushek, S. Machin, & L. Woessmann (eds.), *Handbook of the economics of education* (vol. 3), chapter 11.

- **Empirical papers**

Note: This list contains a selection of papers and will be updated throughout the semester. Some of the listed papers are part of the homework assignments. References to further papers discussed in the seminar can be found in the lecturer's slides.

Buehler, A., Lehnert, P., & Backes-Gellner, U. (2024). Curriculum updates in vocational education and changes in graduates' skills and wages. *Journal of Education and Work*, 37(5-6), 458-482.

Cattaneo, M. A., Gschwendt, C., & Wolter, S. C. (2025). How scary is the risk of automation? Evidence from a large-scale survey experiment. *Journal of Economic Behavior & Organization*, 235, 107034.

Eggenberger, C., Janssen, S. & Backes-Gellner, U. (2022). The value of specific skills under shock: High risks and high returns. *Labour Economics*, 78, 102187.

Girsberger, E. M., Koomen, M., & Krapf, M. (2022). Interpersonal, cognitive, and manual skills: How do they shape employment and wages? *Labour Economics*, 78, 102235.

Goller, D., Gschwendt, C., & Wolter, S. C. (2025). This time it's different: Generative artificial intelligence and occupational choice. *Labour Economics*, forthcoming.

Kiener, F., Eggenberger, C., & Backes-Gellner, U. (2024). The role of occupational skill sets in the digital transformation: How IT progress shapes returns to specialization and social skills. *Journal of Business Economics*, 94, 75-111.

Kiener, F., Gnehm, A.-S., Clematide, S., & Backes-Gellner, U. (2022). IT skills in vocational training curricula and labour market outcomes. *Journal of Education and Work*, 35(6-7), 614-640.

Lipowski, C., Salomons, A., & Zierahn-Weilage, U. (2025). Expertise at work: New technologies, new skills, and worker impacts. *ZEW Discussion Paper No. 24-044*.

Matthies, E., Thöma, J., & Bizer, K. (2025). A hidden source of innovation? Revisiting the impact of initial vocational training on technological innovation. *Journal of Vocational Education & Training*, 77(2), 276-296.



- Muehleemann, S. (2024). AI adoption and workplace training. *Swiss Leading House "Economics of Education" Working Paper No. 232.*
- Muehleemann, S., Pfann, G., & Pfeifer, H. (2024). Apprenticeship input demand cyclicity of R&D and non-R&D firms. *Swiss Leading House "Economics of Education" Working Paper No. 223.*
- Palffy, P., Lehnert, P., & Backes-Gellner, U. (2023). Social norms and gendered occupational choices of men and women: Time to turn the tide? *Industrial Relations*, 62(4), 380-410.
- Pfister, C., Koomen, M., Harhoff, D., & Backes-Gellner, U. (2021). Regional innovation effects of applied research institutions. *Research Policy*, 50(4), 104197.
- Pregaldini, D., & Backes-Gellner, U. (2024). How middle-skilled workers adjust to immigration: The role of occupational skill specificity. *International Journal of Manpower*, 45(8), 1607-1625.
- Rupietta, C., Meuer, J., & Backes-Gellner, U. (2021). How do apprentices moderate the influence of organizational innovation on the technological innovation process? *Empirical Research in Vocational Education and Training*, 13, 1.
- Schlegel, T., Pfister, C., & Backes-Gellner, U. (2022). Tertiary education expansion and regional firm development. *Regional Studies*, 56(11), 1874-1887.
- Schultheiss, T., & Backes-Gellner, U. (2023). Different degrees of skill obsolescence across hard and soft skills and the role of lifelong learning for labor market outcomes. *Industrial Relations*, 62(3), 257-287.
- Schultheiss, T., & Backes-Gellner, U. (2024). Does updating education curricula accelerate technology adoption in the workplace? Evidence from dual vocational education and training curricula in Switzerland. *The Journal of Technology Transfer*, 49, 191-235.
- Schweri, J., Aepli, M., & Kuhn, A. (2021). The costs of standardized apprenticeship curricula for training firms. *Empirical Research in Vocational Education and Training*, 13, 16.
- Zisler, C., Palffy, P., Pfeifer, H., Pull, K., & Backes-Gellner, U. (2025). Boundary spanning and team innovativeness: The role of teams' technology portfolios. *Swiss Leading House "Economics of Education" Working Paper No. 243.*

WWF statutory course policies:

According to WWF study regulations, all exam dates are final as published in the course catalogue. This means that the final exam dates and times are not negotiable. It will not be possible to take any exams on different dates.

Check your class schedule for possible exam conflicts at the beginning of the semester, as this is your own responsibility. If you want to avoid heavy workload and taking multiple exams in one day, you will have to rearrange your class schedule accordingly before the semester starts. Please arrange yourself by taking the respective classes only.

Academic dishonesty in any form will not be tolerated. Anyone caught cheating or engaging in unethical behavior will be reported to the Dean's Office according to the guidelines on academic dishonesty set forth by the University of Zurich.

Don't forget to officially register yourself using the registration tool (Modulbuchungstool) of the University of Zurich.



Note: The information in this syllabus supports the official information in the electronic university registration tool (VZ – Vorlesungsverzeichnis – Course Catalogue). In cases of doubt, the official information in the course catalogue is decisive.