

NAME OF THE COURSE	ECONOMICS OF AGEING					
Course professor	Josipa Višić, PhD, Full professor	Credits (ECTS)	6			
Associates	/	Method of teaching (number of hours)	Guided process of teaching			
			L	S	E	F
			20		20	
			Independent student activities			
			30%			
Status of the course /educational activity		E-learning percentage of application	10%			
COURSE DESCRIPTION						
Course/educational activity objectives	<p>This course applies a microeconomic perspective to analyze various economic repercussions of population ageing, and at the same time, it deals with several macroeconomic effects of these changes. After introducing the theme and explaining the concept of the silver economy, topics will cover individual, firm-level and government-level implications of population ageing. Special attention is given to the economic aspects of the long-term care (LTC) system for older adults, focusing on the EU countries. Finally, the course deals with challenges and opportunities of technological progress observed in the context of population ageing.</p> <p>The course is aimed at students interested in the population ageing process and its various economic and related socio-demographic changes. It improves skills in microeconomics and critical thinking about government policies related to population ageing.</p>					
Course/educational activity enrolment requirements and entry competences required	<p>Introductory level microeconomics</p> <p>Introductory level macroeconomics</p>					
Learning outcomes expected at the level of course/ educational activity (4 to 10 outcomes)	<p><b>The overall learning outcome</b> To detect and understand the micro and macroeconomic repercussions of population ageing with the goal to evaluate related public policies.</p> <p><b>Individual learning outcomes</b></p> <ul style="list-style-type: none"> <li>▪ Analyze the impact of ageing on changes in consumer behavior regarding current and future spending.</li> <li>▪ Detect changes companies face in adjusting the structure of their inputs and outputs to population ageing.</li> <li>▪ Identify the economic effects of population ageing observed from a macroeconomic perspective related to the labor market, fiscal implications of retirement and the healthcare system.</li> <li>▪ Analyze micro and macroeconomic aspects of the long-term care system for older adults.</li> <li>▪ Critically evaluate public policies that address the economic implications of population ageing, including the healthcare system, housing and labor market.</li> <li>▪ Detect challenges and opportunities of population ageing in the context of technological progress, i.e., the fifth industrial revolution.</li> </ul>					
Course/educational activity's syllabus broken down in detail by weekly class schedule	<b>Lectures</b>		<b>Exercises</b>			
	<b>Topic</b>	<b>Hours</b>	<b>Topic</b>	<b>Hours</b>		
	Introduction to population ageing	2	The concept of the silver economy	2		
	Population ageing and consumption	2	Population ageing and savings	2		
	Population ageing and firm-level changes with a focus on the input/employee perspective	2	Firm-level adjustments of production and providing services	2		
	Population ageing and firm-level changes with a focus on the output perspective	2	Firm-level adjustments of outputs	2		
	Economic aspects of long-term care (LTC) for older adults	2	Types of care and their economic repercussions	2		
	The market for LTC services	2	Quality of care and efficiency	2		
	Public policies related to LTC	2	Public policies related to LTC in the EU	2		
	Long-term care (LTC) for the older adults in Croatia	3	Types of available LTC in Croatia. Changes in the market.	3		
Population ageing and technological progress (automatisation/robotisation and development of artificial intelligence)	3	Consumer perspective, firm-level implications and public policy implications of technological progress	3			

Format of instruction	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars <input type="checkbox"/> workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input checked="" type="checkbox"/> field work (visit to an LTC institution for older adults in Split)		<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input checked="" type="checkbox"/> group assignments			
Student responsibilities	<ul style="list-style-type: none"> <li>▪ Active in-class participation.</li> <li>▪ Participation in individual and/or group assignments</li> <li>▪ Students are required to present in oral form the independent and/or group assignments.</li> <li>▪ Minimum attendance rate is 50%.</li> <li>▪ Prerequisites to take the exam: <ul style="list-style-type: none"> <li>a) attendance requirements (minimum of 50%)</li> <li>b) positively evaluated independent and/or assignments and presentation of assignment topics.</li> </ul> </li> </ul>					
Student work-participation (name the proportion of ECTS credits for each activity, so that the total number of ECTS credits matches the ECTS value of the course/educational activity)	Class attendance	1	Research		Practical work	
	Experimental work		Workshop		Group assignments	2*
	Essay		Seminar paper		Individual assignments	2*
	Tests		Oral exam		(Other)	
	Written exam	3	Project		(Other)	
Grading and evaluating student work and accomplishments	<p>* Group assignments are alternative to individual assignments.</p> <p>During the semester students have to:</p> <ul style="list-style-type: none"> <li>▪ Perform two individual and/or group assignments that are related to preparing a presentation on given topics that are in line with course objectives.</li> <li>▪ Take the exam.</li> </ul> <p>The student's overall success is calculated based on the weighted results achieved by the tasks:</p> <ul style="list-style-type: none"> <li>▪ The grade of the exam is multiplied by a weight of 0.60,</li> <li>▪ The average grade from the two fulfilled individual and/or group assignments and their presentations is multiplied by a weight of 0.40.</li> </ul> <p>Points and grades for the student's overall grade consist of: 1) points related to the exam and 2) points related to individual and/or group assignments:</p> <ul style="list-style-type: none"> <li>• 0-49 inadequate (1)</li> <li>▪ 50-59 sufficient (2)</li> <li>▪ 60-74 good (3)</li> <li>▪ 75-89 very good (4)</li> <li>▪ 90-100 excellent (5).</li> </ul>					
Required literature	<p>Each topic is provided with the suggested reading list consisting of open-access papers.</p> <ol style="list-style-type: none"> <li>1. <b>Introduction to population ageing and the concept of the silver economy</b> <ul style="list-style-type: none"> <li>▪ Klimczuk, A. (2016). Comparative Analysis of National and Regional Models of the Silver Economy in the European Union, <i>International Journal of Ageing and Later Life</i>, Vol. 10, No. 2, pp. 31-59. <a href="https://ssrn.com/abstract=2828138">https://ssrn.com/abstract=2828138</a></li> <li>▪ Rogelj, V., Bogataj, D. (2019). Social infrastructure of Silver Economy: Literature review and Research agenda, <i>IFAC-PapersOnLine</i>, Vol 52, No. 13, pp. 2680-2685. DOI:10.1016/j.ifacol.2019.11.612. <a href="https://www.sciencedirect.com/science/article/pii/S2405896319316003">https://www.sciencedirect.com/science/article/pii/S2405896319316003</a></li> </ul> </li> <li>2. <b>Population ageing, consumption, and savings</b> <ul style="list-style-type: none"> <li>▪ Kuoppamäki, S.-M., Wilska, T.-A., Taipale, S. (2017). Ageing and consumption in Finland: The effect of age and life course stage on ecological, economical and self-indulgent consumption among late middle-agers and young adults between 1999 and 2014, <i>International Journal of Consumer Studies</i>, Vol. 41, pp. 457–464. DOI:10.1111/ijcs.12353. <a href="https://onlinelibrary.wiley.com/doi/full/10.1111/ijcs.12353">https://onlinelibrary.wiley.com/doi/full/10.1111/ijcs.12353</a></li> <li>▪ Bloom, D.E., Chatterji, S., Kowal, P., Lloyd-Sherlock, P., McKee, M., Rechel, B., Rosenberg, L., Smith, J.P. (2015). Macroeconomic implications of population ageing and selected policy responses, <i>Lancet</i>, Vol. 385, No. 9968, pp. 649-657. DOI: 10.1016/S0140-6736(14)61464-1.</li> <li>▪ Pascual-Saez, M., Cantarero-Prieto, D., Pires Manso J.R. (2019). Does population ageing</li> </ul> </li> </ol>					

affect savings in Europe?, *Journal of Policy Modeling*, Vol. 42, No. 2, pp. 291-306. DOI:10.1016/j.jpolmod.2019.07.009

**3. Population ageing and firm-level changes:**

- **input/employee perspective**
- **output perspective**

- Akanni, M., Čepar, Ž. (2015). Impact of Population Ageing on Unemployment and Entrepreneurial Activity: the Case of Slovenia, *Organizacija*, Vol. 48, No. 4, pp. 232-245. DOI:10.1515/orga-2015-0020. <https://sciendo.com/article/10.1515/orga-2015-0020>
- Scott, A.J., Ellison, M., Sinclair, D.A. (2021). The economic value of targeting aging, *Nature Aging*, Vol. 1, pp. 616–623. DOI:10.1038/s43587-021-00080-0. <https://www.nature.com/articles/s43587-021-00080-0#citeas>

**4. Economic aspects of long-term care (LTC) for older adults, with emphasis on the EU:**

- **types of care and their economic repercussions**
- **market for LTC services**
- **public policies related to LTC**

- Pavolini, E. (2022). Long-term care social protection models in the EU, *European Social Policy Network - European Commission*. <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8503&furtherPubs=yes>
- Díaz Díaz, B. (2012). Economic Impact of Ageing and Disabled Population Care Centres in Spain: Valuation for the Region of Cantabria, *Croatian Journal of Social Policy*, Vol. 19, No. 2, pp. 155-174. DOI:10.3935/rsp.v19i2.1052. <http://www.rsp.hr/ojs2/index.php/rsp/article/view/1052>
- Hlebec, V., Srakar, A., Majcen, B. (2016). Care for the Elderly in Slovenia: A Combination of Informal and Formal Care. *Croatian Journal of Social Policy*, Vol. 23, No. 2, pp. 159-179. DOI:10.3935/rsp.v23i2.1317. <https://hrcak.srce.hr/en/file/239536>
- Laine, J., Finne-Soveri, U.H., Björkgren, M., Linna, M., Noro, A., Häkkinen, U. (2005). The association between quality of care and technical efficiency in long-term care, *International Journal for Quality in Health Care*, Vol. 17, No. 3, pp. 259-267. DOI: 10.1093/intqhc/mzi032.
- Mali, J. (2019). Innovations in Long-Term Care: The Case of Old People's Homes in Slovenia, *Croatian Journal of Social Policy*, Vol. 26, No. 2, pp. 207-225. DOI:10.3935/rsp.v26i2.1584. <https://hrcak.srce.hr/en/file/326517>
- Ozbugday, F.C., Tirgil, A., Kose, E.G. (2020). Efficiency changes in long-term care in OECD countries: A non-parametric Malmquist Index approach, *Socio-Economic Planning Sciences*, Vol. 70(C). DOI:10.1016/j.seps.2019.100733
- The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070), Directorate-General for Economic and Financial Affairs - European Commission. DOI:10.2765/84455. [https://economy-finance.ec.europa.eu/publications/2021-ageing-report-economic-and-budgetary-projections-eu-member-states-2019-2070\\_en](https://economy-finance.ec.europa.eu/publications/2021-ageing-report-economic-and-budgetary-projections-eu-member-states-2019-2070_en)
- Tran, A. et al. (2019). A Systematic Literature Review of Efficiency Measurement in Nursing Homes, *International Journal of Environmental Research and Public Health*, Vol. 16, No. 12, pp. 1-18. DOI: 10.3390/ijerph16122186. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6616898/>

**5. Long-term care (LTC) for older adults in Croatia**

- Višić, J. (2023). Market characteristics and entry strategy decision making: the market perspective of Croatian elderly care homes, *Strategic Management*. DOI:10.5937/StraMan2300050V. <https://scindeks.ceon.rs/Article.aspx?artid=1821-34488800052V>

**6. Population ageing and technological progress (automatisation/robotisation and development of artificial intelligence):**

- **consumer perspective**
- **firm-level implications**
- **public policy implications**

- Čaić, M., Odekerken-Schröder, G., Mahr, D. (2018). Service robots: value co-creation and co-destruction in elderly care networks, *Journal of Service Management*, Vol. 29, No. 2, pp. 178 – 205. DOI:10.1108/JOSM-07-2017-0179. [https://www.researchgate.net/publication/323551428\\_Service\\_robots\\_Value\\_co-creation\\_and\\_co-destruction\\_in\\_elderly\\_care\\_networks](https://www.researchgate.net/publication/323551428_Service_robots_Value_co-creation_and_co-destruction_in_elderly_care_networks)
- Randall, N., Joshi, S., Kamino, W., Hsu, L.-J., Agnihotri, A., Li, G., Williamson, D., Tsui, K., Šabanović, S. (2022). Finding ikigai: How robots can support meaning in later life, *Frontiers in Robotics and AI*, Vol.9, 1011327. DOI: 10.3389/frobt.2022.1011327. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9647876/>
- Sharkey, A., Sharkey, N. (2012). Granny and the robots: Ethical issues in robot care for the elderly, *Ethics and Information Technology*, Vol. 14, No. 1, pp. 27 – 40.

DOI:10.1007/s10676-010-9234-6.

[https://www.researchgate.net/publication/226452328\\_Granny\\_and\\_the\\_robots\\_Ethical\\_issues\\_in\\_robot\\_care\\_for\\_the\\_elderly#fullTextFileContent](https://www.researchgate.net/publication/226452328_Granny_and_the_robots_Ethical_issues_in_robot_care_for_the_elderly#fullTextFileContent)

**Additional reading:**

- Innes, H.M., Walsh, K., Österberg, T. (2021). The inverse care law and the significance of income for utilization of longterm care services in a Nordic welfare state, *Social Science & Medicine*, Vol. 282, 114125. DOI:10.1016/j.socscimed.2021.114125
- Mihić, M.M., Todorović, M.Lj., Obradović, V.Lj. (2014). Economic analysis of social services for the elderly in Serbia: Two sides of the same coin, *Evaluation and Program Planning*, Vol. 45, pp. 9-21. DOI:10.1016/j.evalprogplan.2014.03.004
- Walker, C.C. Druckman, A., Jackson, T. (2022). A critique of the marketisation of long-term residential and nursing home care, *Lancet Healthy Longevity*, Vol. 3, No. 4, pp. E298-E306. DOI:10.1016/S2666-7568(22)00040-X

Note: Students are not expected to be familiar with econometric methods presented in studies from the recommended reading list.