



**FEDERAL UNIVERSITY OF SÃO CARLOS**  
**CENTER OF BIOLOGICAL AND HEALTH SCIENCES**  
**GRADUATE PROGRAM IN PHYSICAL THERAPY**  
**Concentration: Physical Therapy and Functional Performance**  
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**COURSE: FIT 580 - Topics in Research and Innovation in Work Physical Therapy and Ergonomics**

**Credit: 6**

**Course Load: 90 hrs.**

**Instructors: Ana Beatriz de Oliveira, Ph.D.**

**Tatiana de Oliveira Sato, Ph.D.**

**Course Overview:**

The course addresses the main theoretical and methodological frameworks for occupational physical therapy and ergonomics, evidence-based practice, applications, and innovations in the field. During the course, students' research projects will be discussed, emphasizing scientific articles published in high-impact journals.

**Course Materials:**

1. Balogh I, Ohlsson K, Nordander C, Björk J, Hansson GÅ. The importance of work organization on workload and musculoskeletal health - grocery store work as a model. *Appl Ergon* 2016;53PtA:143-51.
2. Barbieri DF, Srinivasan D, Mathiassen SE, Nogueira HC, Oliveira AB. The ability of non-computer tasks to increase biomechanical exposure variability in computer-intensive office work. *Ergonomics* 2015;58(1):50-64.
3. Barbieri DF, Srinivasan D, Mathiassen SE, Oliveira AB. Variation in upper extremity, neck and trunk postures when performing computer work at a sit-stand station. *Appl Ergon* 2019;75:120-128.
4. Cabral AM, Moreira RFC, de Barros FC, Sato TO. Is physical capacity associated with the occurrence of musculoskeletal symptoms among office workers? A cross-sectional study. *Int Arch Occup Environ Health* 2019;92(8):1159-1172.
5. Cid MM, Côté JN, Zancanaro LL, Oliveira AB. Sex differences in postures of the upper body during a simulated work task performed above shoulder level. *J Biomech* 2020;107:109855.
6. Ferreira ALR, Sato TO. Effectiveness of ergonomic training to reduce physical demands and musculoskeletal symptoms - an overview of systematic reviews. *Int J Ind Ergon* 2019;74:102845.
7. Mathiassen SE, Wahlström J, Forsman M. Bias and imprecision in posture percentile variables estimated from short exposure samples. *BMC Medical Research Methodology* 2012, 12:36.

8. Mathiassen SE. Diversity and variation in biomechanical exposure: What is it, and why would we like to know? *Appl Ergon* 2006;37:419-427.
9. van der Beek AJ, Dennerlein JT, Huysmans MA, Mathiassen SE, Burdorf A, van Mechelen W, van Dieën JH, Frings-Dresen MHW, Holtermann A, Janwantanakul P, van der Molen HF, Rempel D, Straker L, Walker-Bone K, Coenen P. A research framework for the development and implementation of interventions preventing work-related musculoskeletal disorders. *Scand J Work Environ Health* 2017;43(6):526-539.
10. Vieira LMSMA, Sato TO. Prevalence of multisite pain and association with work ability - cross-sectional study. *Musculoskelet Sci Pract* 2020;50:102279.