
Modulbezeichnung: **Interfacing the Neuromuscular System: Laboratory (INS-Lab) 5 ECTS**
(Interfacing the Neuromuscular System: Laboratory)

Modulverantwortliche/r: Alessandro Del Vecchio, Daniela Souza de Oliveira, Assistenten

Lehrende: Assistenten, Alessandro Del Vecchio, Daniela Souza de Oliveira

Startsemester: SS 2022

Dauer: 1 Semester

Turnus: jährlich (SS)

Präsenzzeit: 60 Std.

Eigenstudium: 90 Std.

Sprache: Englisch

Lehrveranstaltungen:

Interfacing the Neuromuscular System: Laboratory (SS 2022, Praktikum, 2 SWS, Anwesenheitspflicht, N.N.)

Empfohlene Voraussetzungen:

This module can be used as Academic Lab/Hochschulpraktikum (M6.1) in the Master's program Medical Engineering. Master's students of Medical Engineering can also use this lab course to increase the ECTS value of the graded module "Interfacing the Neuromuscular system: Applications for Human/Machine Interfaces and Neurophysiology (INS)".

Inhalt:

During this laboratory, students will have the opportunity to gather data from a non-invasive neural interface (high-density grids of EMG electrodes) during natural movements. This dataset will then be analysed and processed by the students. The students will also record kinematic and force data in synchrony with the neural interface. The final goal is to find a way to associate kinetics, kinematics and EMG signals for a reliable neural interface in human subjects.

Lernziele und Kompetenzen:

Students understand and apply the acquisition of high-density EMG signals. Students evaluate and interpret the data resulting from their recordings. Students produce technical reports that follow good scientific practice.

Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

Das Modul ist im Kontext der folgenden Studienfächer/Vertiefungsrichtungen verwendbar:

[1] **Medizintechnik (Master of Science)**

(Po-Vers. 2013 | TechFak | Medizintechnik (Master of Science) | Grundcurriculum für alle Studienrichtungen | M6 Medizintechnische Praxiskompetenzen | Interfacing the Neuromuscular System: Laboratory (INS-Lab))

[2] **Medizintechnik (Master of Science)**

(Po-Vers. 2018w | TechFak | Medizintechnik (Master of Science) | M6 Medizintechnische Praxismodule | Interfacing the Neuromuscular System: Laboratory (INS-Lab))

[3] **Medizintechnik (Master of Science)**

(Po-Vers. 2019w | TechFak | Medizintechnik (Master of Science) | Modulgruppe M6 - Medizintechnische Praxismodule | Medizintechnische Praxismodule / Medical Engineering Practical Modules | Interfacing the Neuromuscular System: Laboratory (INS-Lab))

Studien-/Prüfungsleistungen:

Interfacing the Neuromuscular System: Laboratory (INS-Lab) (Prüfungsnummer: 31021)

(englische Bezeichnung: Interfacing the Neuromuscular System: Laboratory)

Studienleistung, Praktikumsleistung

weitere Erläuterungen:

Report on the practical activities

Prüfungssprache: Englisch

Erstablingung: SS 2022, 1. Wdh.: keine Wdh.

1. Prüfer: Alessandro Del Vecchio