BIO-465 Biological modelling of neural networks

Start date: 17/02/2020, End date: 29/05/2020
Platform: courseware.epfl.ch

Ecole Polytechnique Fédérale de Lausanne

COURSE SYNOPSIS

Domain: Life sciences

Title(s) of the course(s) as it appears on the platform: Neuronal Dynamics and Computational Neuroscience: Neuronal Dynamics of Cognition

Language (ISO-639-1 code): en

Short description of the course: In this course we study mathematical models of neurons and neuronal networks in the context of biology and establish links to models of cognition.

Instructor(s): Wulfram Gerstner

Level: MA all years

ECTS: 4.0

Workload in student hours: 120

Semester: 1: jan-june


Prerequisites: Required courses undergraduate math at the level of electrical engineering or physics majors undergraduate physics. Recommended courses Analysis I-III, linear algebra, probability and statistics For SSV students: Dynamical Systems Theory for Engineers or "Mathematical and Computational Models in Biology" Important concepts to start the course Differential equations, stochastic processes.

Link to course on platform: https://courseware.epfl.ch/courses/course-v1:EPFL+BIO_465.a+2019_1/course/

Link to course in University studyplan: http://isa.epfl.ch/imoniteur_ISAP/IGEDPUBLICREPORTS.pdf?ww_i_reportModel=1696552884&ww_i_reportModelXsl=1696552963&ww_i_itemplan=2372843310&ww_c_langue=fr

Course registration opening date: 01/02/2020
Course registration deadline: 17/02/2020

Course withdraw date: 04/05/2020

Midterm: Yes

Midterm details: Mini-Project

Exam period start: 14/06/2020
Exam period end: 04/07/2020

Exam date: -
Exam timing: Synchronous (exam needs to take place at the same date and time everywhere)

Exam start time: -

Exam end time: -

Time zone (at the time of the exam, DST): UTC+2

Exam registration date: 04/05/2020

Exam resit available: No

Exam resit period start: -

Exam resit period end: -

Exam resit date: -

Exam resit time start: -

Exam resit time end: -

Time zone (at the time of the resit of the exam, DST): -

Final exam type: Written

Final exam details: Exam can be on a Saturday. Exam rules: Allowed material: • Bring writing material (Pen, etc.). • Paper will be provided. • You can bring a single A5 (half the size of A4) sheet, handwritten, on which you are allowed write (recto-verso) whatever you think might be useful. • Nothing else. (In particular no books, lecture notes, mobile phones, laptops, calculators, etc.)

Exam requirements for home university (computer, VOIP, recording materials): Exam can be on a Saturday. Proctored room necessary

Cap (maximum number of exchange students): 10

Offered to which partners: -, All partners of the Alliance(s) selected above

Link to course image: https://drive.google.com/open?id=1i4C-RNaHuuZMI5bEvhU0Atl0wFQT04Uj