

Course Content

Course Title (English)	Computational Cognitive Neuroscience
Course Title (Chinese)	計算認知神經科學
Credit	3
Instructor	Prof. Shyh-Kang Jeng 鄭士康 教授
Outline	<ol style="list-style-type: none">1. Science of Cognition2. Neurons3. Brains4. Neural Engineering Framework (NEF) Principle 1: Representation5. NEF Principle 2: Computation6. NEF Principle 3: Dynamics7. Perceptions8. Autoencoder And Semantic Pointer Hypothesis9. Syntax Processing10. Action Control: Physiology11. Action Control: Models12. Memories13. Learning14. The SPAUN Model
Goal	Students are expected to build a capability of constructing prototypes simulating human cognitive behaviors consistent with neural physiology and psychological observations through principles and numerical models of cognitive neuroscience. Students may also apply such approaches different from conventional AI theories to design more efficient robots or to investigate

	possible functioning mechanisms and pathology of neural subsystems (the brain) related to human cognition.
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese