3 - 7 July 2017, from 9.00 to 13.00*

Course title: **NEUROECONOMICS AND MANAGEMENT**

ECTS credits: 4

**Lecturer:** Professor Frank Hartmann, Erasmus University, Rotterdam School of Management, The Netherlands and guest lecture contributions

**Contact:** fhartmann@rsm.nl

**AIMS OF THE COURSE:**

Over the last decades, we have witnessed an invasion of the social sciences by insights from research on the human brain. Neuroscience is the field that stimulates this development. Neuroscience is the field of science that studies the (human) nervous system, often focusing on the human brain. Traditionally neuroscience has been a branch of biology, but it has developed into an interdisciplinary field connects such diverse disciplines as genetics, physics, linguistics and medicine. Despite being a rather recent field of academic work, neuroscience has started to have a fundamental influence on economics and management. Neuroeconomics has already become a household name within the larger social sciences. It integrates and blends insights from neuroscience, psychology and economics to provide more accurate predictions and explanations of human agents. In the field of management, which traditionally relies heavily on both psychology and economics, the impact of social, cognitive neuroscience is increasing as well. In this course, we aim to provide an introductory overview of this impact.

While traditionally economics and psychology dominate our academic understanding of management, we will explore what neuroscience has to offer to improve our understanding and design of management and decision making in the business disciplines. The label ‘social’ and ‘cognitive’ constitute a focus within neuroscience on social relations and cognitive processes that humans engage in. Besides these theoretical considerations, there is an empirical side to neuroscience that we will explore. Due to rapid technological advancement, we are now able to record physiological processes in the brain in a relatively straightforward way, which enables us to quickly learning more about their relation to human perceptions, behaviors and experiences.

Based on this course and the course material, students will understand both the actual and potential contributions that social cognitive neuroscience makes to the social sciences.
COURSE SYLLABUS:

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<th>Session</th>
<th>Theme &amp; activities</th>
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<tr>
<td><strong>Session 1</strong>&lt;br&gt;Monday&lt;br&gt;9:00-12:00</td>
<td>Introduction&lt;br&gt;Lecture: An Short Intro into Neuroscience&lt;br&gt;Team-work&lt;br&gt;Discussion &amp; Wrap-up</td>
<td>Camerer et al. (2005)&lt;br&gt;Gross (2012)</td>
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<td><strong>Session 2</strong>&lt;br&gt;Tuesday&lt;br&gt;9:00-12:00</td>
<td>Neuroeconomics &amp; accounting&lt;br&gt;Lecture: Controllership&lt;br&gt;Paper presentations by students&lt;br&gt;Discussion &amp; Wrap-up</td>
<td>Rizzolatti &amp; Fabbri-Destro (2010)&lt;br&gt;Hickok (2009)&lt;br&gt;Hartmann &amp; Maas (2010)&lt;br&gt;Eskenazi et al. (2016)</td>
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<td><strong>Session 3</strong>&lt;br&gt;Tuesday&lt;br&gt;13:00-16:00</td>
<td>Neuroeconomics &amp; finance&lt;br&gt;Lecture: Searching for system 1 &amp; 2&lt;br&gt;Paper presentations by students&lt;br&gt;Discussion &amp; Wrap-up</td>
<td>Barton et al. (2014).&lt;br&gt;Kuhnen and Knutson (2011)&lt;br&gt;Lo, Repin and Steenbarger (2005)</td>
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<td><strong>Session 4</strong>&lt;br&gt;Tuesday&lt;br&gt;9:00-12:00</td>
<td>Neuroeconomics &amp; marketing&lt;br&gt;Lecture: Consumer Choice&lt;br&gt;Paper presentations by students&lt;br&gt;Discussion &amp; Wrap-up</td>
<td>Perrachione &amp; Perrachione (2008)&lt;br&gt;Couwenberg et al. (2016)&lt;br&gt;Stanton et al. (2016)&lt;br&gt;Trimble et al. (2016)</td>
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<td><strong>Session 5</strong>&lt;br&gt;Wednesday&lt;br&gt;13:00-16:00</td>
<td>EEG lab visit&lt;br&gt;Neurology, Clinic&lt;br&gt;Address: Zaloška cesta 7 (meet at building 7a), Dr. Jurij Dreo (provisional)</td>
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<td><strong>Session 6</strong>&lt;br&gt;Wednesday&lt;br&gt;9:00-12:00</td>
<td>fMRI lab visit&lt;br&gt;Neurology, Clinic&lt;br&gt;Address: Zaloška cesta 7 (meet at building 7a), Dr. Grega Repovs (provisional)</td>
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<td><strong>Session 7</strong>&lt;br&gt;Thursday&lt;br&gt;13:00-16:00</td>
<td>Wrap-up&lt;br&gt;Lecture: Some Conclusions&lt;br&gt;Presentation of draft research proposal</td>
<td>Ross (2008)&lt;br&gt;Waymire (2014)&lt;br&gt;Konolvalov &amp; Krajbich (2016)</td>
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*Important note: The lectures are formally planned from 9:00-13:00, but please take into account that there might be some changes due to unforeseen circumstances, class room dynamics, and the availability of the lab. Therefore, please allow for slack in your schedules around these times.*
LIST OF READINGS:
We will use a following relatively short, easy to read, but splendid little text on the brain as a starting point:


In addition, we will read one to three academic papers per session, from the following list:

- Konovalov, A., & Krajbich, I. (2016). Over a Decade of Neuroeconomics What Have We Learned?. Organizational Research Methods, 1094428116644502.


**BACKGROUND READINGS:**

In addition, there are many papers that are relevant to this course, from the accounting, management and neuroscience literature. Some of the papers that have specifically informed course design are listed here:

TEACHING METHODS:
The course consists of a mix of lectures, student presentations and break-out assignments. The lectures and student presentations are based on the reading material. EEG and fMRI-lab visits are conditionally planned.

PREREQUISITES:
The course requires background knowledge in the field of financial management at the bachelor level. No prior knowledge on social cognitive neuroscience is supposed.

EXAMINATION METHODS:
The exam consists of a written essay that contains a short research proposal in financial management that uses theory and/or method from social cognitive neuroscience. Your evaluation is also based on class participation.

1. Research proposal (70%)
2. Class participation (30%)

**Ad 1. Research proposal**
Students will write a research proposal individually or with a fellow student. This assignment will be extensively introduced during Session 1. In short however, the assignment is as follows. The document should detail a plan for researching behaviour relevant for accounting by means of neuroscientific methods. The emphasis in this assignment is on research design. The following components are required:

- Introduction (1-2 pages)
- Theory and hypothesis development (2-4 pages)
- Research design (1-2 pages)

Teams will present their draft proposals to the group in Session 6. The final research proposal is due 18 July 23.59pm.

**Ad 2. Participation**
Participation is a mix of attendance, preparedness, contribution and presentation.
Lecturer’s Biographical Note

Frank Hartmann is full-time professor of Management Accounting & Management Control at the Rotterdam School of Management, Erasmus University. He is Dean of Executive Education in this school, besides which his main activities involve research and teaching on managerial decision making, and financial management and control. His research is published nationally and internationally in both academic and practitioner, and he teaches in the Dutch certified controller (MSc) program at Erasmus University, and in various MBA and executive programs at RSM and internationally. Frank is co-author of several national and international textbooks on management control, amongst which a recent standard textbook on Management Control Systems. He received his PhD at Maastricht University in 1997, after which he was appointed full professor at the University of Amsterdam in 1998. Here, he was founding director of the business school of that university before joining the Rotterdam School of Management, Erasmus University in 2005. Frank’s current work is in the neuroscience of financial decision making and performance evaluation. Frank is visiting scholar at various universities in Europe and abroad.