



THE UCLA HERB ALPERT SCHOOL OF MUSIC



# MUSIC MIND & BRAIN

MUSIC INDUSTRY 103, DEPT OF ETHNOMUSICOLOGY

SPRING TERM 2011-2012

Wednesdays 6:30 – 9:30 PM

## Syllabus version 4.18

<http://www.registrar.ucla.edu/schedule/result.aspx?termsel=12S&subareasel=&session=&INSTNAME=tramo&CS=O&KWT=>



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### Schedule of Classes

#### Spring 2012

#### MUS IND 103 MUSIC AND BRAIN

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SEM 1 TRAMO, M.J.

ID Number	Type	Sec	Days	Start	Stop	Building	Room	Res't	#En	EnCp	#WL	WLCp	Status
403318200	SEM	1	W	6:30P	9:30P	SMB	1354		25	25	0	0	Closed

### UPPER DIVISION COURSES

#### MUS IND 103. Music and Brain (4)

Seminar, three hours; outside study, nine hours.

This seminar takes an interdisciplinary approach to understanding brain mechanisms mediating music perception, performance, and cognition. Students' natural interest in music serves as springboard for learning basic concepts about how brain works. The seminar focuses on specific themes such as harmony perception, production and performance, and emotion and meaning. The course is designed to help students understand methodologies currently used to investigate mind-brain correlates. Fundamental principles in neurophysiology, psychophysiology, and neuroanatomy that are relevant to basic research in cognitive neuroscience and auditory neuroscience are emphasized. After two foundational lectures by Professor Tramo, student study-groups present key papers from the literature as a team. There will be guest professors from neuroscience, music, and the music industry. Every week, there are written homework assignments that are based on the lectures. The final examination is take-home based on the homeworks and lectures. There is letter grading based on attendance/punctuality (30%), homework score (30%), final exam score (25%), presentation/participation (15%).

**Spring Quarter 2012**

<b>Quarter begins</b>	<b>Wednesday, March 28</b>
Cesar Chavez holiday	Friday, March 30
Instruction begins	Monday, April 2
Study List deadline (becomes official)	Friday, April 13
Memorial Day holiday	Monday, May 28
<b>Instruction ends</b>	<b>Friday, June 8</b>
Common final exams	Saturday-Sunday, June 9-10
Final examinations	Monday-Friday, June 11-15
<b>Quarter ends</b>	<b>Friday, June 15</b>
Commencement ceremonies	Friday-Saturday, June 15-16

Faculty:

Mark Jude Tramo, MD, PhD

Director, The Institute for Music & Brain Science

Dept of Neurology, David Geffen School of Medicine at UCLA

Dept of Ethnomusicology, UCLA Herb Alpert School of Music

Email: [REDACTED]

URL: [www.BrainMusic.org](http://www.BrainMusic.org)

Guest Faculty:

Jonathan Berger, Ph.D.\*

Denning Family Provostial Professor of Music

Center for Computer Research in Music & Acoustics

Stanford Institute for Creativity & the Arts

Stanford University, Palo Alto, CA

John Iversen, Ph.D.\*\*

Research Scientist

The Neurosciences Institute, La Jolla, CA

Tom Sturges<sup>†</sup>

Executive VP/ Head of Creative

Universal Music Publishing, Santa Monica, CA

Prerequisites: None

Required books: None

Required reading:

- Class notes
- Handouts
- Articles assigned from journals for presentations and reading:
  - go to The Institute for Music & Brain Science website, <http://www.BrainMusic.org>
  - on the Home Page, click on "Education"; there, click on "Institute's eLibrary"
  - find the PDF using the author's name(s) or title of the paper.
- OR
- go to the UCLA electronic library, search e-journals using the name of the journal the paper was published in
- find the year, volume, and page number of the paper you want
- download a PDF of the paper into your hard drive or memory stick and read it.

Recommended books:

- *Harvard Dictionary of Music, 4<sup>th</sup> Edition*, Randel DM (Ed), 2003 (Brain and Music entry)
- *Emotion and Meaning in Music*. Meyer, L. 1956
- *The Unanswered Question*. Bernstein, L. 1973
- *Science of Sound, 3<sup>rd</sup> ed.* Rossing, T et al. 2001
- *Fundamentals of Hearing, 5<sup>th</sup> Ed.* Yost W. 2009
- *Psychology of Hearing*. Green B. 2007
- *Cognitive Foundations of Musical Pitch*. Krumhansl C. 1990
- *Psychology of Music*. Deutsch D (ed) 1999
- *Oxford Handbook of Music Psychology*. Hallam et al. (ed) 2009
- *Human Neuroanatomy, 9<sup>th</sup> Ed.* Carpenter M, 1996
- *Auditory Cortex*, Aitkin L. 1990
- *Principles of Behavioral Neurology*, Mesulam, M-M, 1985

## Lecture & Seminar Schedule

### 1. Wednesday April 4: Lecture I

- Course Overview
- Conceptual & Empirical Approaches to Understanding Mind-Brain Correlates
- Functional Brain Organization in Relation to Emotion & Meaning in Music

### 2. Wednesday April 11: Lecture II

- Modern Experimental Methods for Studying Mind-Brain Correlates
  - What is Music?
  - Pictures of Sound
- Acoustic vs. Perceptual Features of Music, Voice & Speech

### 3. Wednesday April 18: Seminar I

Pitch Perception

### 4. Wednesday April 25: Seminar II

Harmony Perception

### 5. Wednesday May 2: Seminar II

Rhythm Perception\*\*

### 6. Wednesday May 9: Seminar III

Expectancy, Meaning & Emotion\*

7. Wednesday May 16: Seminar IV  
Emotion, Memory & Empathy

8. Wednesday May 23: Seminar V  
Mirroring, Production, & Performance

9. Wednesday May 30: Seminar VI  
Music, Health & Medicine

10. Wednesday June 6: Seminar VII  
Creativity & Talent<sup>†</sup>

**Final Examination** will be handed out at the end of class on June 6<sup>th</sup> and must be handed in on **June 13<sup>th</sup>** between 6:30P and 9:30P to Dr. Tramo in Room 1354.

**END**