*Some themes of this course:*

-- Xenakis's major technical constructs, especially sieves, screens, group theory, and

musically mapped probability distributions, as implemented in the music

-- X's views, and his musical developments, regarding pitch, rhythm, meter, timbre,

and density

-- The relation of Xenakis's mathematically driven and "reasoned" thought to his

intuitive thought

-- His motivations for using complex and systematic procedures to generate musical

irregularities and mass events

In sum, we'll explore Xenakis's use of elements from mathematics, probability, and architecture;

his rethinking of elements from Western music; his attempts to evoke new aural

and social listening experiences, and his efforts to manifest philosophic thought in sonic form.

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"Formalisation et axiomatisation de la composition musicale" (ch. 3)

"Les trois Paraboles" (ch. 2)

PROBABILITY/CHAOS/STATISTICS:

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Life. (New York: Springer-Verlag). Chapters 1 and 2.

Chung, Kai Lai. 1979. Elementary Probability Theory with Stochastic Processes.

(New York: Springer-Verlag). Third Edition. Chapter 7.

Clarke, A. Bruce. 1985. Probability and Random Processes. (New York:

John Wiley &amp; Sons):

ch. 7 "Special Distributions"

Isaac, Richard. 1999. The Pleasures of Probability. (New York: Springer-Verlag).

Chapters 9-12.

Stewart, Ian. 1989. Does God Play Dice? The Mathematics of Chaos. (Cambridge,

MA: Basil Blackwell), especially chapters 3, 4, 8, 9

SUPPLEMENTARY:

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http://www.flexatone.net/athenaInfo.html#athenaFeatAlgo

http://www.flexatone.net/computer.html#athenaNetTools

http://www.flexatone.net/athenaInfo.html#athenaFeatAnalytic

\_\_\_\_\_\_. 2004.<i> Onomato. </i>2004. Musical composition utilizing sieve processes applied to

rhythm: http://www.flexatone.net/concert.html#onomato

\_\_\_\_\_\_. 2004. An Object-Oriented Model of the Xenakis Sieve for Algorithmic Pitch,

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Other Writings. (New York: New Directions). Edited by Donald Yates.

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Lacroix, Marie-Hortense PlÃ©iades (Paris: Michel de Maule, 2001).

WORKS STUDIED

Metastaseis 1953-54 orchestra (61) : serialism, sound masses,

glissandi, geometric ratios

Pithoprakta 1955-56 orchestra (50) : stochastics

Concret PH 1958 4-channel tape (stereo version)

Nomos Alpha 1966 solo cello : sieves, group theory

Antihkthon 1971 (ballet music) orchestra (88)

Mikka 1971 solo violin : random walks using glissandi

Pleiades 1978 six percussion : time formations, sieves

Mists 1980 solo piano : random walks+ stochastics

Ã&nbsp; r. 1987 solo piano : random walks + simultaneities

Tracees 1987 orchestra (94)