

## Evolutionary Ecology and Information

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### ● The Objectives of the Lecture---“Interfaculty Initiative in Information Studies”:

#### What is it?

- My class will discuss methodologies, ideas, and outlooks that cross various scholastic boundaries.
- Fusion of sciences and humanities: What is it?
- Is it necessary? How can it be done?
- What is academic learning?
- What is knowledge?
- Where can we find knowledge in this society?
- What is the relationship between knowledge and society?

*Keywords: Evolution, Complex Systems, Meme, and Knowledge Circulation*

### ● Methodology

- My class will describe and analyze applications of biological evolution theory to non-biological systems such as: evolution of science and technology, evolution of economy, evolution of enterprises.
- What prerequisites for such a purpose?
- What benefits are achieved from such a method?

### ● Theory Chapter

#### (1) Basics of Evolutionary Theory

- Fundamental theories of Biological Evolution
- Fusion of informatics and evolution
- Application in Cultural Dynamics(as Meme); A non-life evolutionary theory
- Environmental adaptation of information systems: life and culture are synonymous

→If evolution is considered as flow of information, application of evolution theory in

**systems outside the world of biology is feasible.**

(2) Evolution of Human Species ~ from man as a life form to humans with culture

- Process of human evolution
- Evolutionary factors of humankind.
- Evolutionary Psychology

→**Acceptance of humankind as a living body opens new perspectives in the fields of anthropology, philosophy, history, sociology, economy and such.**

### ● **Practice Chapter**

We will invite lecturers from varied fields that extend beyond the specific territory of learning.

We hope to invite Hideaki Sena (novelist) and Kunihiro Maeda (host of Kanshinkukan Website.)

### ● **Observation Chapter**

We plan to visit Ueno Zoo and the Japan Museum of Science and Future.

The object is to learn about evolution by observing real animals. (Last year we got too involved in the incredibly interesting talk with the gorilla keeper that we lost sight of our focus. Let's be more diligent this time.)

The content of our visit to the National Museum of Emerging Science and Innovation (Miraikan) is still under consideration.

### ● **Online Lectures**

This class will be transmitted by iii-online this semester.

The class will attempt a two-way exchange between class and Web. In fact discussions will start in class, continue by BBS and summing up will take place in the classroom.

### ● **Criteria used in Grading**

The grades will be based on the end of semester report and the frequency of participation in discussions and operations in class and on the Web site.

### ● **Bibliography (most are given class text status, so do buy them!)**

Sakura, Osamu. *Evolution as a Tool of Thinking*, Kodansha Gendaishinsho, 2002.

Discount is available for students. When purchasing, contact Sakura directly.

Sakura, Osamu(ed.). *The Essence of Evolution: an Anthology*, Transart, 2003

Available from on-demand publisher. Unfortunately, there is no discount.  
Please purchase from Transart HP (<http://www.transart.co.jp/>).

● **Reference Website**

*The Third Culture* by John Brockman [http://www.edge.org/3rd\\_culture/index.html](http://www.edge.org/3rd_culture/index.html)

Website *Edge* operated by John Brockman. He is an American editor promoting “The Third Culture” which is neither categorized as science nor the humanities but in fact both.

This is an attempt to create new knowledge through exchanges with top-notch world scientists.

How will the Japanese school of learning tackle this?

※ Please refer to HP (<http://park.itc.u-tokyo.ac.jp/sakuralab/main.htm>) for further readings.