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**Humanities, Art, Science: A Trans-Disciplinary and Cross-Cultural Experience**

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本科生    硕士生    博士生

Undergraduate    Master    Doctoral student

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English

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No prerequisite

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Lecturing and seminar, projects, English-writing training

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Presentation 25%, Mid-term exam 25%, Term project and report 40%, Participation 10%

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2 credits

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LuiLAM ，humanist and physicist, is a professor at San Jose State University, California, and guest professor at Institute of Physics, Chinese Academy of Sciences and China Association for Science and Technology. He obtained his BS (First Class Honors) from University of Hong Kong; MS, University of British Columbia; PhD, Columbia University. He did his PhD thesis at Bell Labs with Philip Platzman, a student of Nobelist Richard Feynman. He invented Bowlics (1982), one of three existing types of liquid crystals in the world; Active Walks (1992), a new paradigm in complex systems; and two new disciplines: Histophysics (2002) and Scimat (2007/2008). He has published 16 books and over 180 scientific papers; the books include Arts: A Science Matter (2011), and All About Science: Philosophy, History, Sociology & Communication (2014).He is the founder of the International Liquid Crystal Society (1990); cofounder of the Chinese Liquid Crystal Society (1980); founder and editor of two book series, “Science Matters” (World Scientific) and “Partially Ordered Systems” (Springer); cofounder and coordinator of the International Science Matters Committee (ISMC). Lam is an editor of Physics and Science Popularization. His current research is in scimat, complex systems, and philosophy; scimat website: www.sjsu.edu/people/lui.lam/scimat.

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This is a trans-disciplinary and cross-cultural course, taught according to Confucius’ dictum of “instruction knows no social distinction; teach according to the student’s aptitude”. The course consists of 3 parallel components. (1) The instructor will introduce the proper relationships between humanities and (natural) science, from the perspective of scimat—a new discipline initiated by Lui Lam (2007/2008) that treats all human-dependent matters as part of science; and new developments (especially those using the bottom-up approach) in history, arts and philosophy. (2) Students will form teams of 5-6 persons per team, work on a (research) project of their choice and approved by the instructor, to investigate what had been done scientifically on that topic, with the help from the web, library and experts around the world. Students will present progress report in class; the team will hand in a written report at end of course. Outside speakers could be used. (3) The teams will be treated and guided like research teams. They will learn how to do good research, do presentation in English and write research papers in English. (Some papers could be published in international research journals.) The proportion of the 3 components will be determined according to the students’ educational background and needs.

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CHAPTER ONE: INTRODUCTION  
 1.1 Learning  
 1.2 Teaching  
1.3 The Book  
1.4 Summary  
Further Reading  
  
CHAPTER TWO: HUMANS  
 2.1 We Came a Long Way  
 2.2 Humans  
2.3 Summary  
Further Reading  
  
CHAPTER THREE: KNOWLEDGE, NATURE, SCIENCE AND SCIMAT  
 3.1 Introduction  
3.2 Human Knowledge and the Knowscape  
3.3 Scimat 1: The Humanities  
3.4 Religion and Philosophy  
3.5 Nature and Science  
3.6 Science, Scientist and the Science Room  
3.7 Discussion  
3.8 Summary  
Further Reading  
  
CHAPTER FOUR: SCIENCE AND SCIMAT, AGAIN  
 4.1 Science in a Nutshell  
4.2 How Science Is Done  
4.3 The Essence of Science  
4.4 Scimat 3: Q & A, Ramifications and Significance  
3.5 Discussion  
3.6 Summary  
Further Reading  
Appendix: The Scimat Program  
  
CHAPTER FIVE: HISTORY  
 5.1 Introduction  
 5.2 Nature of the Historical System  
 5.3 Deterministic System and Stochastic System  
 5.4 Three Levels in Scientific Research  
 5.5 History Studies: Conventional Methods  
 5.5 History Studies: New Methods  
 5.6 History in the Future  
 5.7 Discussion  
 5.8 Summary  
 Further Reading  
  
CHAPTER SIX: ARTS  
 6.1 Introduction  
 6.2 Origin of Arts  
 6.3 Nature of Arts  
 6.4 Arts as a Science Matter  
 6.5 Arts and “Science”  
 6.6 Discussion  
 6.7 Summary  
 Further Reading  
  
CHAPTER SEVEN: PHILOSOPHY  
7.1 Introduction  
 7.2 Philosophy  
 7.3 Neurophilosophy  
7.4 Experimental Philosophy  
7.5 Zeno’s Paradox  
7.6 Remarks  
7.7 Summary  
Further Reading

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Lui Lam, Humanities, Science, Scimat: A Cross-Cultural and Interdisciplinary Introduction(World Scientific, Singapore, 2016).

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