**《脑的奥秘与精神健康》课程教学大纲**

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| 课程基本信息（Course Information） |
| 课程代码（Course Code） | SP182 | \*学时（Credit Hours） | 32 | \*学分（Credits） | 2 |
| \*课程名称（Course Name） | （中文）脑的奥秘与精神健康 |
| （英文）Brain Mystery and Mental Health |
| 课程性质(Course Type) | 新生研讨课 Freshman Seminar |
| 授课对象（Target Audience） | 生物学专业 Biological Background |
| 授课语言(Language of Instruction) | 英语 English |
| \*开课院系（School） | Bio-X 中心 Bio-X Institutes |
| 先修课程（Prerequisite） |  |
| 授课教师（Instructor） | 李卫东 Weidong LI | 课程网址(Course Webpage) |  |
| \*课程简介（Description） | 在人类，所有的行为依赖于脑的功能。脑不仅控制着行走、饮食等相对简单的行为，也是构成所有思考、语言、艺术创造等复杂的认知行为的基础。同样，所有感觉、思考等方面的精神系统疾病是因为脑功能的异常所导致的。本门新生研讨课拟通过介绍对人类与动物的行为学研究、生理学研究、及分子与细胞学研究的成果讲解精神健康、脑的功能、学习与记忆方面的知识。课程内容安排突出神经科学研究技术的变革及国内外研究最新进展，特别是集中于最热门的研究领域和问题，鼓励学员们课堂内外进行广泛和深入的讨论，使学生在掌握基本理论和知识的基础上，了解和熟悉学科新进展、拓宽知识面，提高学习的主动性。 |
| \*课程简介（Description） | For human beings, all behavior is the result of brain function. The actions of brain underlie not only relatively simple motor behaviors such as walking or eating, but also all the complex cognitive actions, such as thinking, speaking, and creating works of art. As a corollary, all the behavioral disorders that characterize psychiatric illness-disorders of feeling and thought are disturbances of brain function. By introducing research findings that obtained from behavioral, physiological, and molecular and cellular studies, this freshman seminar discusses the knowledge about mental health, brain functions, learning and memory, etc. This course highlights the technological innovations in the history of brain functions’ research and hot topics in this field, encourage students to perform intelligent discussions. Students could get a general idea about basic knowledge, become familiar with the new developments about this field, therefore, broaden their views and stimulate learning initiative. |
| 课程教学大纲（Course Syllabus） |
| \*学习目标(Learning Outcomes) | 1. 掌握脑科学的基础理论知识

Acquire basic knowledge about brain science1. 掌握精神健康的基础理论知识

Acquire basic knowledge about mental health1. 了解学科的多方面发展新方向

Know new developments about this field4．培养学习主动性、发现问题及团队解决问题的能力 Stimulate learning initiatives, develop discovering and solving problem abilities  |
| \*教学内容进度安排及要求(Class Schedule & Requirements) |

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| 教学内容 | 学时 | 教学方式 | 作业及要求 | 基本要求 | 考查方式 |
| History of Neuroscience | 4 | 授课Lectures | 无None | Understand the structure and functions of the central and peripheral nervous system (from sensory systems to cognitive functions like attention, decision making, creative thinking etc.), to obtain knowledge of the evolution of nervous system, experimental brain research techniques, bioethics, animal models in neuroscience, especially animal models of neuropsychiatric disorders | 课堂表现演讲报告总结论文PerformancePresentationPaper |
| Neurons and Glia | 4 |
| The Structure of the Nervous System | 4 |
| Sensory System | 4 |
| Wiring the Brain | 4 |
| The Brain and Behavior | 4 |
| Brain Rhythms | 4 |
| Animal Models  | 4 |

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| \*考核方式(Grading) | 课堂表现Performance 20%；演讲报告Presentation 40%；总结论文Paper 40% |
| \*教材或参考资料(Textbooks & Other Materials) | 1. Principles of Neural Science (Fifth Edition), Eric R. Kandel, McGraw-Hill Medical, 2012, 97800713901182. Principles of Neurobiology, Liqun Luo, Garland Science, 2015, 97808153453363. Neuroscience (Third Edition), Dale Purves / David Fitzpatrick / George J. Augustine, Lippincott Williams and Wilkins, 2004, 97808789372574. Neuroscience: Exploring the Brain (Fourth Edition), Mark F. Bear / Barry Connors / Mike Paradiso, Lippincott Williams & Wilkins, 2015, 97814511095425. Methods of Behavior Analysis in Neuroscience, Jerry J. Buccafusco, CRC Press, 2000, 97808493070416. From Molecules to Networks An Introduction to Cellular and Molecular Neuroscience, John H. Byrne / James L. Roberts, Academic Press, 2003, 9780121486600 |
| 其它（More） |  |
| 备注（Notes） |  |

备注说明：

1．带\*内容为必填项，英语授课课程需另提交一份英文填写版本。

2．课程简介字数为300-500字；课程大纲以表述清楚教学安排为宜，字数不限。