

课程大纲 COURSE SYLLABUS

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| 1. | 课程代码/名称 Course Code/Title | 骨生物学基础研究进展 Advances in Bone Biology |
| 2. | 课程性质 Compulsory/Elective | 专业选修课 Major Elective |
| 3. | 课程学分/学时 Course Credit/Hours | 3 学分/48 学时 3 credits/48 hours |
| 4. | 授课语言 Teaching Language | 中英双语 Chinese/English |
| 5. | 授课教师 Instructor(s) | 曹惠玲， 副教授，南方科技大学医学院 caohl@sustech.edu.cn 0755-88018408 Cao Huiling, Associate Profefesor, School of Medicine, SUSTech caohl@sustech.edu.cn 0755-88018408 |
| 6. | 是否面向本科生开放 Open to undergraduates or not | 否 |
| 7. | 先修要求 Pre-requisites | (如面向本科生开放，请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) Biochemistry, Molecular biology |
| 8. | 教学目标 Course Objectives | (如面向本科生开放，请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 本课程为医学或生物学专业研究生的专业选修课。本课程将从发育、生理及临床等各个方面介绍骨生物学的研究进展。通过本课程的学习，学生将了解骨生物学的最新进展及研究热点，为学生将来的研究工作打下基础。 Advances in Bone Biology is a major elective course for graduate students majoring in medicine or biology. It will introduce the recent advances in many developmental, physiological, and clinical aspects of the bone biology. With completion of this course, students will understand the latest advances and trends of bone biology, which may help lay a foundation for developing their future research work. |
| 9. | 教学方法 Teaching Methods | (如面向本科生开放，请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 专题讲授与专题讨论。 Lecture and discussion. |
| 10. | 教学内容 Course Contents | (如面向本科生开放，请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) |
| | Section 1 | 骨生物学总论 Introduction of Bone biology |
| | Section 2 | 骨骼中的细胞 Cells in bone |
| | Section 3 | 骨骼发育 Skeleton development |
| | Section 4 | 破骨细胞及骨吸收 Osteoclast and bone resorption |

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| Section 5 | 成骨细胞及骨形成 Osteoblast and bone formation |
| Section 6 | 骨细胞与骨稳态 Osteocyte and bone homeostasis |
| Section 7 | 骨应力介导 Bone mechano-transduction |
| Section 8 | 骨质疏松症的治疗 Treatment of osteoporosis |
| Section 9 | 软骨发育与疾病 Cartilage Development and Disease |
| Section 10 | 骨性关节炎 Osteoarthritis |
| Section 11 | 类风湿性关节炎 Rheumatoid arthritis |
| Section 12 | 骨肿瘤及肿瘤骨转移 Bone tumour and tumour bone-metastasis |
| Section 13 | 骨血管 Bone vessels |
| Section 14 | 骨髓脂肪组织 Bone marrow adipose tissue |
| Section 15 | 骨免疫学 Osteoimmunology |
| Section 16 | 骨与骨外器官互作 Crosstalk Between Bone and Vital Organs |
| 11. 课程考核 Course Assessment | |
| | <p>(① 考核形式 Form of examination; ②. 分数构成 grading policy; ③ 如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>① 考核形式: 期末报告 Form of examination: Term report.</p> <p>② 分数构成: 出勤占 10%、课堂表现占 30%, 期末报告占 60%。 Grading policy: attendance 10%, in-class performance 30%, term report 60%.</p> |
| 12. 教材及其它参考资料 Textbook and Supplementary Readings | |
| | <p>参考资料 Supplementary Readings:</p> <ol style="list-style-type: none"> 1. 《Encyclopedia of Bone Biology》 by Dr. Mone Zaidi et al, 2019. ISBN 978-0-12-814081-9. 2. 《骨发育与骨疾病的现代研究》, 2018, ISBN 978-7-313-20582-7. |