Contents

Biological Sciences
How to teach students to gain an understanding of genetics—thinking as a geneticist ........ 1
Wang Ruiyong, Nanjing University

Chemistry
Using new teaching strategies to improve teaching and learning in Organic Chemistry .... 6
Dai Yanfeng, Nanchang University
Reforming organic chemistry teaching using student-centred methods ...................... 10
Chen Guohui, Central South University
Considerations of student-centred teaching strategies in Organic Chemistry teaching ..... 14
He Wei, Fourth Military Medical University
Improving the teaching quality of Organic Chemistry by adopting some modern teaching methods ................................................................. 19
Hong Jiang, Huazhong Agricultural University
Edutainment in the Chemistry of Fine Chemicals .................................................... 23
Shimei Xu, Xinjiang University
Using contemporary education strategies to improve teaching and learning in General Chemistry ................................................................. 26
Wang Xiaojie, National University of Defence Technology
The application of contemporary teaching strategies in the Principles of Chemical Engineering course ..................................................... 30
Xiong Dan Lui, East China University of Science and Technology

Geosciences
Using appropriate strategies to improve teaching and learning in palaeontology at Chang’an University ................................................................. 36
Chen Shu’e, Chang’an University
The redesign of undergraduate geological course system using contemporary education strategies and approaches ...................................................... 41
Zhang Mingjie, Lanzhou University
A strategy for promoting bilingual teaching in Physical Geology at Jilin University .... 45
Peng Xiangdong, Jilin University

Mathematics
Introducing student-centred, collaborative tutorials in Advanced Mathematics .......... 49
Wu Ruxue, The University of Guangxi
Keep improving the art of teaching in Calculus ..................................................... 52
Han Zhitao, Northeastern University
How to teach Linear Algebra effectively ............................................................. 57
Quanxing Zhang, Chang’an University
Student-centred teaching of Numerical Analysis ............................................... 60
Weiwei Wang, Xidian University
Involve me, I will understand: How to improve students’ understanding in the mathematics course Ordinary Differential Equations .................. 64
Hongye Wang, Zhengzhou University

Physics
Active teaching and learning in Principles of Communication Systems .................. 68
Changchuan Yin, Beijing University of Posts and Telecommunications
A rethink of the reform of the University Physics course in Harbin Engineering University ................................................................. 72
Ma Wenjun, Harbin Engineering University
Improving student’s lifelong learning skills in Circuit Analysis ............................ 75
Weijie Dong, Dalian University of Technology

Interdisciplinary
Enhancing research and teaching to support students in transition from school to university ................................................................. 79
Dong Yan, Beijing Normal University and Mary Peat, The University of Sydney