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| **112(2)/2024 SPRING Semester TIGP-ESS課程資訊表****112(2)/2024 SPRING Semester TIGP-ESS course information form** |
| 科目名稱(中文) | 實用科學寫作 |
| Course Title (English) | Practical Scientific Writing |
| 授課時間Time | Friday 9:00-12:00 |
| 授課地點Location | Academia Sinica, IES room 305 |
| 學分數Course Credits | 3 |
| 主要授課老師Main Instructors | Kwan-Nang Pang (彭君能) |
| 聯絡郵件E-mail | knpang@earth.sinica.edu.tw |
| 辦公時間Office Hours | by appointment |
| 課程目標Course Objectives | To equip students with knowledge and skills in scientific writing, including but not limited to Earth Sciences. |
| 授課內容Course Description | This elective course is designed for graduate students with English as a foreign language to understand the know-how of scientific writing. Key contents are word usage, text editing, preparation of figures, and common mistakes made by non-professional writers. Through lecture, discussion and group learning, the students are able to understand the essentials of scientific writing in an interesting way. |
| 教科書/參考書Textbooks/References | [1] Bates, R.L., Adkins-Heljeson, M.D., Buchanan, R.C., 1995. Geowriting. American Geological Institute, Virginia, 138 pp.[2] Yang, J.T., 1995. An Outline of Scientific Writing. World Scientific, Singapore, 160 pp.[3] Glasman-Deal, H., 2010. Science Research Writing. Imperial College Press, Singapore, 272 pp. |
| 自編教材比例Self-compiled Textbook/References Proportion(if any) |  100% |
| 授課方式Course Requirements | ■講授(Lecture)；■研討(Seminar)；□實習/實驗(Internship/Experiment)；□個別指導(Individual Discussion)；□其他(Other) |
| 評量配分比重Course Grade | Mid-term Presentation (50%) and Final Exam 50% |
| 課程領域Areas | □基礎學科(共同)(Basic subjects (common)) □固態地球科學(Solid earth sciences) □水圈科學(Aquatic sciences) [1]■應用語言(Applied Languages) □大氣科學(Atmospheric sciences) [2] |
| 產業領域Areas | □地探科技(Geological monitoring technology) □氣象科技(meteorological science and technology) □太空科技(Space Technology) [1]□環保科技(environmental protection science and technology) □資訊科技(Informational Technology) [2]■教學研究(Teaching & research) □地質科技(Geosciences and technology) |
| 課程進度與內容Lecture outline and content |
| 週次week | 主題Topic | 授課教師/指定閱讀或作業Instructor/Readings or assignments |
| **1** | Introduction | Kwan-Nang Pang (IES) |
| **2** | Anatomy of academic publications | Kwan-Nang Pang (IES) |
| **3** | Basic English grammar | Kwan-Nang Pang (IES) |
| **4** | Vocabulary in scientific writing | Kwan-Nang Pang (IES) |
| **5** | Sentence and paragraph structure | Kwan-Nang Pang (IES) |
| **6** | Making use of source materials | Kwan-Nang Pang (IES) |
| **7** | Illustration using tables | Kwan-Nang Pang (IES) |
| **8** | Illustration using drawings, photographs, and maps | Kwan-Nang Pang (IES) |
| **9** | Revise and proofreading | Kwan-Nang Pang (IES) |
| **10** | Mid-term presentation | Kwan-Nang Pang (IES) |
| **11** | How to write an abstract and an introduction? | Kwan-Nang Pang (IES) |
| **12** | How to write a method section? | Kwan-Nang Pang (IES) |
| **13** | How to write a result section? | Kwan-Nang Pang (IES) |
| **14** | How to write a discussion section? | Kwan-Nang Pang (IES) |
| **15** | How to write a conclusion? | Kwan-Nang Pang (IES) |
| **16** | How to get everything else ready? | Kwan-Nang Pang (IES) |
| **17** | Improving rate of manuscript acceptance | Kwan-Nang Pang (IES) |
| **18** | Final examination | Kwan-Nang Pang (IES) |
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| 課程所屬學制(Educational System): 博士班(Doctoral Program) |
| 核心能力I: 請點選本課程培養學生具備核心能力之強度指數，並填寫對應之評量方式Please select core abilities and its corresponding assessments of this course |
| 請勾選學程所訂之核心能力(可複選)■獨立思考與研究能力Independent thinking and research capacity□進階數理及專業知識能力Advanced mathematical and professional knowledge and ability□觀測模擬及分析推理能力Observation simulation and analysis of reasoning ability□電腦及程式語言運用能力Computer and programming language proficiency■國際視野與語文溝通能力International perspective and language communication skills□專業倫理及服務學習能力Professional ethics and service-learning ability |
| 核心能力II: 請點選本課程培養學生具備核心能力之強度指數，並填寫對應之評量方式Please select the core abilities and its corresponding assessments of this course |
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| 強度指數Overall ratingof Core Abilities | 1非常低Very Low | 2低Low | 3普通Medium | 4高High | 5非常高Very High | 評量方式Corresponding Assessments |
| 獨立思考與研究能力Independent thinking and research capacity | □ | □ | □ | ■ | □ | ■紙筆測驗/會考(Test/Exam) □作業練習(Assignments) ■口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) ■自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |
| 進階數理及專業知識能力Advanced mathematical and professional knowledge and ability | ■ | □ | □ | □ | □ | □紙筆測驗/會考(Test/Exam) □作業練習(Assignments) □口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) □自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |
| 觀測模擬及分析推理能力Observation simulation and analysis of reasoning ability | ■ | □ | □ | □ | □ | □紙筆測驗/會考(Test/Exam) □作業練習(Assignments) □口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) □自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |
| 電腦及程式語言運用能力Computer and programming language proficiency | ■ | □ | □ | □ | □ | □紙筆測驗/會考(Test/Exam) □作業練習(Assignments) □口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) □自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |
| 國際視野與語文溝通能力International perspective and language communication skills | □ | □ | □ | □ | ■ | ■紙筆測驗/會考(Test/Exam) □作業練習(Assignments) ■口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) ■自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |
| 專業倫理及服務學習之能力Professional ethics and service-learning ability | ■ | □ | □ | □ | □ | □紙筆測驗/會考(Test/Exam) □作業練習(Assignments) □口頭報告/口試(Presentation/Oral Exam) □專題研究報告(書面)(Research Report(printed on paper)) □實作/實驗(Practices/Experiments) ■出席/課堂表現(Attendance/Performance) □學習檔案評量(Portfolios Assessment) □自我評量/同儕互評(Self-Assessment/ Peer Assessment) □作品/創作展演(Products/Creative Performance) □其他(Others)  |

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