

# 國立臺灣大學生命科學院 110學年度第1學期臨時院課程委員會 會議紀錄

會議時間：110年11月22日(一)上午10點

會議形式：U meeting 會議進行

會議主席：鄭院長石通

出席：丁委員照棟、高委員文媛、陳委員立涵、陳委員示國

陳委員俊豪、李委員承叡(請假)、楊委員健志(請假)

楊委員啟伸、楊委員淑怡(請假)、冀委員宏源(請假)、

蕭委員超隆、院學生代表白韻翎(請假)

(依姓名筆劃排序)

列席：張秘書倩妮(請假)、賴助理煜婷、林友瑜

記錄：蔡助理蕎憶

壹、報告事項：無。

貳、討論事項：

一、本院110學年度第2學期新開通識課程審查案，提會討論。

說明：

(一) 依校公文110年10月13日校共字第110073633號函(附件1、略)、「國立臺灣大學通識課程與基本能力課程實施辦法」、「國立臺灣大學通識課程開授及審查作業要點」以及本院「國立臺灣大學生命科學院課程委員會設置要點」第四點(附件2、略)規定，辦理新開通識課程之審查。

(二) 本次新開通識課程申請案共3件(附件3)：  
由基因體與系統生物學位學程提送(附件3-1~3-3)。

決議：

1. 修正後通過。

2.3-2課程領域別修正 A1，並補充說明著作目錄。

3.3-3課程領域別修正 A6，並補充說明著作目錄。

參、 臨時動議：無。

肆、 散會（10時44分）。

110學年度第2 學期各院系(所、學程)新開設通識課程清單

院	系(所)學程	課號	班次	課程名稱	領域(註1)	學分數	半/全年	授課教師姓名	專任/兼任(註2)	修課總人數	課程性質		開放外系人數(若為系所或學程開設之專業課程充抵為通識課程,請填寫此欄位)	近三年開設類似課程評鑑值(如有類似課程之評鑑值,若無免填)(註3)	英語授課請打勾	備註
											系所或學程開設之專業課程充抵為通識課程	一般通識課程				
生科院	基礎與系統生物學學位學程	GenSys 5021	1	生物資訊概論	A6, A8	2	全	林友瑜	專任	180		V	V			
生科院	基礎與系統生物學學位學程	GenSys 5022	1	學術寫作與資源呈現	A8	2	全	林友瑜	專任	50		V	V		V	
生科院	基礎與系統生物學學位學程	GenSys 5023	1	以 Excel 進行資料分析	A6	2	全	林友瑜	專任	120		V	V			

註1：96學年度起通識課程分為八大領域，「領域」欄位僅需填寫代號，各領域代號如下：文學與藝術 (A1)、歷史思維 (A2)、世界文明 (A3)、哲學與道德思考 (A4)、公民意識與社會分析 (A5)、量化分析與數學素養 (A6)、物質科學 (A7)、生命科學 (A8)。如跨兩個領域僅需在前A之後加上兩個數字，如跨A2與A3，請表示為A23。

註2：依100學年度第1學期第1次共同教育中心課程委員會決議，若擬新開設通識課程之教師為兼任教師，請開課單位提供授課教師個人學歷資料做為課程審查的參考資料之一。

註3：如於近三年內曾開設類似課程，而其教學評鑑值低於3.8，本中心課程委員會得參酌其教學意見調查統計表「基本資訊」項目及修課學生文字意見，審議該課程開授之適當性。

經2021年11月16日系(所、學程)課程委員會通過

系(所、學程)承辦人：

主管簽章：

林友瑜  
專任助理

鄭石通

經2021年11月22日院課程委員會通過

學院承辦人：

主管簽章：

蔡菁憶  
專任助理

鄭石通

## 國立臺灣大學通識課程開授申請表

### 一、課綱

<b>課程名稱</b>	(中文) 生物資訊概論 (英文) Introduction to Bioinformatics			
<b>開課單位</b>	生命科學院(中心) 基因體與系統生物學學位學程			
<b>授課教師</b>	林友瑜	<b>專/兼任</b> (如為兼任，應檢附 CV)	<input checked="" type="checkbox"/> 專任 <input type="checkbox"/> 兼任	<b>職級</b> <input type="checkbox"/> 教授 <input type="checkbox"/> 副教授 <input checked="" type="checkbox"/> 助理教授 <input type="checkbox"/> 講師
<b>學分數</b>	2		<b>修課人數上限</b>	180
<b>授課語言</b>			<input checked="" type="checkbox"/> 中文授課 <input type="checkbox"/> 英文授課 <input type="checkbox"/> 其他，____	
<b>課程領域別</b> (每門通識課程得認列至多二個領域)	<input type="checkbox"/> A1文學與藝術 <input type="checkbox"/> A2歷史思維 <input type="checkbox"/> A3世界文明 <input type="checkbox"/> A4哲學與道德思考		<input type="checkbox"/> A5公民意識與社會分析 <input checked="" type="checkbox"/> A6量化分析與數學素養 <input type="checkbox"/> A7物質科學 <input checked="" type="checkbox"/> A8生命科學	
<b>課程性質</b>	<input checked="" type="checkbox"/> 本課程為一般通識課程 <input type="checkbox"/> 本課程為系(所、學位學程、學分學程)課程充抵為通識課程(開放外系學生人數：____人)			
<b>課程概述</b>	自從人類基因體完成定序之後，生物資訊學這門結合了生物、資訊、統計等領域的跨領域學門也越來越受到重視。次世代定序技術的成熟發展提供了大量的序列資料，並經由生物資訊的分析而推動了學術與臨床各個領域的發展，本課程希望以淺顯易懂的方式介紹生物資訊的基本概念與應用。			
<b>教學目標與學生學習成效</b>	希望學生能從生物資訊學的角度去瞭解定序資料產生、分析與應用的過程。本課程期望能培養學生的邏輯思考能力，並激發學生對於生物資訊領域的興趣。			
<b>每週進度及教學內容簡述</b>	第一週：Introduction to history, development, and roles of Bioinformatics 第二週：DNA, RNA, protein, genome 第三週：Sanger sequencing and next generation sequencing 第四週：Sequence alignment (local and global)			

	<p>第五週：Mapping and assembly</p> <p>第六週：Multiple sequencing alignment and phylogenetic analysis</p> <p>第七週：Databases and available tools</p> <p>第八週：Mid-term exam</p> <p>第九週：Gene expression profile (microarray and transcriptome)</p> <p>第十週：Gene expression analysis, gene ontology, pathway analysis</p> <p>第十一週：Gut microbiota and multi-omics</p> <p>第十二週：Bioinformatics for ecology and evolution</p> <p>第十三週：Drug development and precision medicine</p> <p>第十四週：Bioinformatics and the COVID-19 pandemic</p> <p>第十五週：Future of Bioinformatics and how to start</p> <p>第十六週：Final exam</p>
<p><b>指定閱讀</b> (請詳列每週學生應 配合閱讀之篇章)</p>	無
<p><b>延伸閱讀</b></p>	無
<p><b>成績評量方式</b> (可包含本課程對學生 課外學習之要求)</p>	<p>20% 課堂小考</p> <p>40% 期中考</p> <p>40% 期末考</p>
<p><b>最近三年評鑑 值</b> (申請新開之課程如 在近三年內曾教授類 似課程者請填寫)</p>	<p>課程名稱：_____</p> <p>第___學年度第___學期：_____；第___學年度第___學期：_____；</p> <p>第___學年度第___學期：_____；第___學年度第___學期：_____；</p> <p>第___學年度第___學期：_____；第___學年度第___學期：_____。</p>
<p><b>對應之聯合國 永續發展目標</b></p>	<p>本校為實踐校園永續力及社會責任，鼓勵教師在課程融入聯合國永續發展目標 (Sustainable Development Goals，詳 <a href="https://sustainabledevelopment.un.org/sdgs">https://sustainabledevelopment.un.org/sdgs</a>)，以期培育未來社會的永續人才。授課教師請勾選對應之 SDGs，勾選之數目不限，得做為課程審查的參考資料之一：</p> <p><input type="checkbox"/> SDG 1：終結貧窮 (No Poverty)</p> <p><input type="checkbox"/> SDG 2：終結飢餓 (Zero Hunger)</p> <p><input checked="" type="checkbox"/> SDG 3：良好健康與福祉 (Good Health and Well-being)</p> <p><input checked="" type="checkbox"/> SDG 4：優質教育 (Quality Education)</p> <p><input type="checkbox"/> SDG 5：性別平等 (Gender Equality)</p> <p><input type="checkbox"/> SDG 6：潔淨水資源 (Clean Water and Sanitation)</p> <p><input type="checkbox"/> SDG 7：可負擔之永續能源 (Affordable and Clean Energy)</p>

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|  | <input type="checkbox"/> SDG 8：良好工作及經濟成長 (Decent Work and Economic Growth)<br><input type="checkbox"/> SDG 9：工業化、創新及基礎建設 (Industry, Innovation and Infrastructure)<br><input type="checkbox"/> SDG 10：消弭不平等 (Reduced Inequalities)<br><input type="checkbox"/> SDG 11：永續城鄉 (Sustainable Cities and Communities)<br><input type="checkbox"/> SDG 12：負責任之生產消費循環 (Responsible Consumption and Production)<br><input type="checkbox"/> SDG 13：氣候變遷對策 (Climate Action)<br><input type="checkbox"/> SDG 14：海洋生態 (Life below Water)<br><input type="checkbox"/> SDG 15：陸域生態 (Life on Land)<br><input type="checkbox"/> SDG 16：和平與正義制度 (Peace, Justice and Strong Institutions)<br><input type="checkbox"/> SDG 17：全球夥伴關係 (Partnerships for the Goals) |
|--|--|

二、授課教師申請開授課程之相關著作或近五年 (2017-2021) 所發表之學術性著作目錄 (依實際增刪)

1. Wang JT\*, Lin YY\*, Chang SY, Yeh SH, Hu BH, Chen PJ, Chang SC. (2020, Apr). The role of phylogenetic analysis in clarifying the infection source of a COVID19 patient. *Journal of Infection*, 2020 Jul;81(1):147-178.
2. Li CL, Ho MC, Lin YY, Tzeng ST, Chen YJ, Pai HY, Wang YC, Chen CL, Lee YH, Chen DS, Yeh SH, Chen PJ. Cell-free virus-host chimera DNA from Hepatitis B virus integration sites as a circulating biomarker of hepatocellular cancer. *Hepatology*. 2020 Mar 14. doi: 10.1002/hep.31230.
3. Lin YY, Hsieh CH, Chen JH, Lu X, Kao JH, Chen PJ, Chen DS, Wang HY. De novo assembly of highly polymorphic metagenomic data using in situ generated reference sequences and a novel BLAST-based assembly pipeline. *BMC Bioinformatics*. 2017 Apr 26;18(1):223.
4. Lin YY, Yu MW, Lin SM, Lee SD, Chen CL, Chen DS, Chen PJ. Genome-wide association analysis identifies a GLUL haplotype for familial hepatitis B virus-related hepatocellular carcinoma. *Cancer*. 2017 Oct 15;123(20):3966-3976
5. You-Yu Lin, Chieh Liu, Wei-Hung Chien, Li-Ling Wu, Yong Tao, Dafei Wu, Xuemei Lu, Chia-Hung Hsieh, Pei-Jer Chen, Hurng-Yi Wang, Jia-Horng Kao, and Ding-Shinn Chen. New insights into the evolutionary rate of hepatitis B virus at different biological scales. *Journal of Virology*, 2015, 89(7) :3512-22.

## 國立臺灣大學通識課程開授申請表

### 一、課綱

<b>課程名稱</b>	(中文) 學術寫作與資料呈現 (英文) Academic writing and data presentation				
<b>開課單位</b>	生命科學院(中心) 基因體與系統生物學學位學程				
<b>授課教師</b>	林友瑜	<b>專/兼任</b> (如為兼任，應檢附 CV)	<input checked="" type="checkbox"/> 專任 <input type="checkbox"/> 兼任	<b>職級</b>	<input type="checkbox"/> 教授 <input type="checkbox"/> 副教授 <input checked="" type="checkbox"/> 助理教授 <input type="checkbox"/> 講師
<b>學分數</b>	2		<b>修課人數上限</b>	50	
<b>授課語言</b>			<input type="checkbox"/> 中文授課 <input checked="" type="checkbox"/> 英文授課 <input type="checkbox"/> 其他，____		
<b>課程領域別</b> (每門通識課程得認列至多二個領域)	<input checked="" type="checkbox"/> A1文學與藝術 <input type="checkbox"/> A2歷史思維 <input type="checkbox"/> A3世界文明 <input type="checkbox"/> A4哲學與道德思考) <span style="float: right;"> <input type="checkbox"/> A5公民意識與社會分析  <input type="checkbox"/> A6量化分析與數學素養  <input type="checkbox"/> A7物質科學  <input type="checkbox"/> A8生命科學           </span>				
<b>課程性質</b>	<input checked="" type="checkbox"/> 本課程為一般通識課程 <input type="checkbox"/> 本課程為系(所、學位學程、學分學程)課程充抵為通識課程(開放外系學生人數：____人)				
<b>課程概述</b>	<p>The aim of this course is for students to develop the skills and techniques to present their academic research findings in a logical and organized manner. Students will learn how to interpret, present, and describe research findings. Students will also learn the structure, flow, and emphasis of academic presentations. This course will not focus on nor be graded by the knowledge of specific academic topics, but it will use biological studies and materials for teaching purposes, yet the concepts and principles apply to all fields. This course will involve some homework writing exercises and group presentation projects.</p>				
<b>教學目標與學生學習成效</b>	<p>After completion of the course, students will be able to read and critique academic papers and presentations, demonstrate analytical and logical think skills by composing structured academic presentations, and comfortable usage of academic vocabulary and grammar.</p>				

<p>每週進度及教學內容簡述</p>	<p>Week 1 : Introduction – Why, What, Where, Who, How  Week 2 : Structure and outline  Week 3 : Background and introduction  Week 4 : Material and methods  Week 5 : Results – How to present your results, table or figure or text?  Week 6 : Results – How to describe your results  Week 7 : Discussion, conclusions, acknowledgement, and supplementary  Week 8 : Mid-term exam/project  Week 9 : Writing format, style, vocabulary, and grammar  Week 10 : How to prepare presentation slides  Week 11 : Citing or coping? Ethical writing, citations, and EndNote  Week 12 : Etiquettes for oral presentations  Week 13 : How to write a research proposal  Week 14 : How to write a curriculum vitae (CV) and cover letters  Week 15 : Student project presentation  Week 16 : Student project presentation</p>
<p>指定閱讀 (請詳列每週學生應配合閱讀之篇章)</p>	<p>n/a</p>
<p>延伸閱讀</p>	<p>1. How can we boost the impact of publications? Try better writing. Freeling et al., Proc Natl Acad Sci U S A. 2019 Jan 8;116(2):341-343.  2. Scientific Writing Made Easy: A Step-by-Step Guide to Undergraduate Writing in the Biological Sciences. Turbek et al., August 2016 Bulletin of the Ecological Society of America 11(12):5644-5652  3. How to write a first-class paper. Virginia Gewin. Nature. 2018 Mar 1;555(7694):129-130.</p>
<p>成績評量方式 (可包含本課程對學生課外學習之要求)</p>	<p>20% Homework  30% Mid-term report or exam  50% Project presentation</p>
<p>最近三年評鑑值 (申請新開之課程如在近三年內曾教授類似課程者請填寫)</p>	<p>課程名稱： _____  第____學年度第____學期： _____；第____學年度第____學期： _____；  第____學年度第____學期： _____；第____學年度第____學期： _____；  第____學年度第____學期： _____；第____學年度第____學期： _____。</p>



<p>對應之聯合國 永續發展目標</p>	<p>本校為實踐校園永續力及社會責任，鼓勵教師在課程融入聯合國永續發展目標 (Sustainable Development Goals，詳 <a href="https://sustainabledevelopment.un.org/sdgs">https://sustainabledevelopment.un.org/sdgs</a>)，以期培育未來社會的永續人才。授課教師請勾選對應之 SDGs，勾選之數目不限，得做為課程審查的參考資料之一：</p> <p><input type="checkbox"/> SDG 1：終結貧窮 (No Poverty)</p> <p><input type="checkbox"/> SDG 2：終結飢餓 (Zero Hunger)</p> <p><input type="checkbox"/> SDG 3：良好健康與福祉 (Good Health and Well-being)</p> <p><input checked="" type="checkbox"/> SDG 4：優質教育 (Quality Education)</p> <p><input type="checkbox"/> SDG 5：性別平等 (Gender Equality)</p> <p><input type="checkbox"/> SDG 6：潔淨水資源 (Clean Water and Sanitation)</p> <p><input type="checkbox"/> SDG 7：可負擔之永續能源 (Affordable and Clean Energy)</p> <p><input type="checkbox"/> SDG 8：良好工作及經濟成長 (Decent Work and Economic Growth)</p> <p><input type="checkbox"/> SDG 9：工業化、創新及基礎建設 (Industry, Innovation and Infrastructure)</p> <p><input type="checkbox"/> SDG 10：消弭不平等 (Reduced Inequalities)</p> <p><input type="checkbox"/> SDG 11：永續城鄉 (Sustainable Cities and Communities)</p> <p><input type="checkbox"/> SDG 12：負責任之生產消費循環 (Responsible Consumption and Production)</p> <p><input type="checkbox"/> SDG 13：氣候變遷對策 (Climate Action)</p> <p><input type="checkbox"/> SDG 14：海洋生態 (Life below Water)</p> <p><input type="checkbox"/> SDG 15：陸域生態 (Life on Land)</p> <p><input type="checkbox"/> SDG 16：和平與正義制度 (Peace, Justice and Strong Institutions)</p> <p><input type="checkbox"/> SDG 17：全球夥伴關係 (Partnerships for the Goals)</p>
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二、授課教師申請開授課程之相關著作或近五年 (2017-2021) 所發表之學術性著作目錄 (依實際增刪)

1. Ya-Wen Cheng, Tai-Ling Chao, Chiao-Ling Li, Sheng-Han Wang, Han-Chieh Kao, Ya-Min Tsai, Hurng-Yi Wang, Chi-Ling Hsieh, **You-Yu Lin**, Pei-Jer Chen, Sui-Yuan Chang, Shiou-Hwei Yeh. D614G Substitution of SARS-CoV-2 Spike Protein Increases Syncytium Formation and Virus Titer via Enhanced Furin-Mediated Spike Cleavage. *mBio*. 2021 Aug 31;12(4):e0058721.
2. Huei-Ru Cheng, Hung-Chih Yang, Su-Ru Lin, Ta-Yu Yang, **You-Yu Lin**, Tung-Hung Su, Tai-Chung Tseng, Chun-Jen Liu, Jia-Horng Kao. Combined viral quasispecies diversity and hepatitis B core-related antigen predict off-nucleos(t)ide analog durability in HBeAg-negative patients. *Hepatology Int*. 2021 Jun;15(3):582-592.
3. Chia-Hua Chen, Ya-Jui Lin, **You-Yu Lin**, Chang-Hung Lin, Li-Ying Feng, Ian Yi-Feng Chang, Kuo-Chen Wei and Chiung-Yin Huang. Glioblastoma Primary Cells Retain the Most Copy Number Alterations That Predict Poor Survival in Glioma Patients. *Front. Oncol.*, 26 April 2021 | <https://doi.org/10.3389/fonc.2021.621432>.
4. Su-Ru Lin, Ta-Yu Yang, Cheng-Yuan Peng, **You-Yu Lin**, Chia-Yen Dai, Hurng-Yi Wang, Tung-Hung Su, Tai-Chung Tseng, I-Jung Liu, Huei-Ru Cheng, Yueh-Chi Shen, Fang-Yi Wu, Chun-Jen Liu, Ding-Shinn Chen, Pei-Jer Chen, Hung-Chih Yang, Jia-Horng Kao. Whole genome deep sequencing analysis of viral quasispecies diversity and evolution in HBeAg seroconverters. *JHEP Rep*. 2021

- Feb 18;3(3):100254.
5. Horng JH, Lin WH, Wu CR, **Lin YY**, Wu LL, Chen DS, Chen PJ. HBV X protein-based therapeutic vaccine accelerates viral antigen clearance by mobilizing monocyte infiltration into the liver in HBV carrier mice. *J Biomed Sci.* 2020 May 28;27(1):70. doi: 10.1186/s12929-020-00662-x.
  6. Wang JT\*, **Lin YY\***, Chang SY, Yeh SH, Hu BH, Chen PJ, Chang SC. (2020, Apr). The role of phylogenetic analysis in clarifying the infection source of a COVID19 patient. *Journal of Infection*, 2020 Jul;81(1):147-178.
  7. Li CL, Ho MC, **Lin YY**, Tzeng ST, Chen YJ, Pai HY, Wang YC, Chen CL, Lee YH, Chen DS, Yeh SH, Chen PJ. Cell-free virus-host chimera DNA from Hepatitis B virus integration sites as a circulating biomarker of hepatocellular cancer. *Hepatology.* 2020 Mar 14. doi: 10.1002/hep.31230.
  8. Shih-Jer Hsu, Sukhee Enkhzaya, **You-Yu Lin**, Tai-Chung Tseng, Tulgaa Khosbayar, Cheng-Hsueh Tsai, Tzu-San Wang, Damba Enkhtuya, Dogsom Ivshinkhorol, Nyamsuren Naranzul, Badarch Jargalsaikhan, Jazag Amarsanaa, Oidov Baatarkhuu, Jia-Horng Kao. Resistance-Associated Substitution and Ledipasvir/Sofosbuvir Therapy in Mongolian Chronic Hepatitis C Patients. *Journal of the Formosan Medical Association.* J Formos Med Assoc. 2019 Oct 28. pii: S0929-6646(19)30819-8.
  9. Chiao Ling Li, Chen Yu Li, **You Yu Lin**, Ming Chih Ho, Ding Shinn Chen, Shiou Hwei Yeh, Pei Jer Chen (2018, Aug). Androgen Receptor Enhances Hepatic TERT Transcription after Hepatitis B Virus Integration or Point Mutation in Promoter Region. *Hepatology.* 2019 Feb;69(2):498-512.
  10. Chen CH, Chen PY, **Lin YY**, Feng LY, Chen SH, Chen CY, Huang YC, Huang CY, Jung SM, Chen LY, Wei KC. (2019, Jan). Suppression of tumor growth via IGFBP3 depletion as a potential treatment in glioma. *Journal of Neurosurgery*, Jan 11:1-12.
  11. Jianming Hu, **You-Yu Lin**, Pei-Jer Chen, Koichi Watashi, Takaji Wakita (2019, Jan). Cell and Animal Models for Studying Hepatitis B Virus Infection and Drug Development. *Gastroenterology*, 156(2):338-354.
  12. **Lin YY**, Yu MW, Lin SM, Lee SD, Chen CL, Chen DS, Chen PJ. Genome-wide association analysis identifies a GLUL haplotype for familial hepatitis B virus-related hepatocellular carcinoma. *Cancer.* 2017 Oct 15;123(20):3966-3976
  13. **Lin YY**, Hsieh CH, Chen JH, Lu X, Kao JH, Chen PJ, Chen DS, Wang HY. De novo assembly of highly polymorphic metagenomic data using in situ generated reference sequences and a novel BLAST-based assembly pipeline. *BMC Bioinformatics.* 2017 Apr 26;18(1):223.

## 國立臺灣大學通識課程開授申請表

### 一、課綱

<b>課程名稱</b>	(中文) 以 Excel 進行資料分析 (英文) Data processing with Excel				
<b>開課單位</b>	生命科學院(中心) 基因體與系統生物學學位學程				
<b>授課教師</b>	林友瑜	<b>專/兼任</b> (如為兼任，應檢附 CV)	<input checked="" type="checkbox"/> 專任 <input type="checkbox"/> 兼任	<b>職級</b>	<input type="checkbox"/> 教授 <input type="checkbox"/> 副教授 <input checked="" type="checkbox"/> 助理教授 <input type="checkbox"/> 講師
<b>學分數</b>	2		<b>修課人數上限</b>	120	
<b>授課語言</b>			<input checked="" type="checkbox"/> 中文授課 <input type="checkbox"/> 英文授課 <input type="checkbox"/> 其他，_____		
<b>課程領域別</b> (每門通識課程得認列至多二個領域)	<input type="checkbox"/> A1文學與藝術 <input type="checkbox"/> A2歷史思維 <input type="checkbox"/> A3世界文明 <input type="checkbox"/> A4哲學與道德思考) <span style="float: right;"> <input type="checkbox"/> A5公民意識與社會分析  <input checked="" type="checkbox"/> A6量化分析與數學素養  <input type="checkbox"/> A7物質科學  <input type="checkbox"/> A8生命科學                 </span>				
<b>課程性質</b>	<input checked="" type="checkbox"/> 本課程為一般通識課程 <input type="checkbox"/> 本課程為系(所、學位學程、學分學程)課程充抵為通識課程(開放外系學生人數：____人)				
<b>課程概述</b>	Data processing is an important aspect for every field of study, and Excel is one of the most commonly used methods. This course, through lecture and homework exercises, will aim to introduce basic and advanced functions of Excel that are capable of meeting most data processing needs. This course will use biological studies and data for teaching purposes, yet the concepts and principles apply to all fields.				
<b>教學目標與學生學習成效</b>	Upon completion of this course, students should be able to perform data formatting, filtering, analysis and presentation with Excel independently.				
<b>每週進度及教學內容簡述</b>	Week 1 : Introduction and basic usage Week 2 : Cell references Week 3 : Conditional expressions (IF) and logical functions (AND, OR, NOT) Week 4 : Statistical functions				

	<p>Week 5 : Statistical functions combined with conditional expression and logical functions</p> <p>Week 6 : Lookup and references</p> <p>Week 7 : Date and time</p> <p>Week 8 : Mid-term exam</p> <p>Week 9 : Figures and plots</p> <p>Week 10 : Dynamic tables</p> <p>Week 11 : Array formula</p> <p>Week 12 : Manipulating text strings and data formatting</p> <p>Week 13 : Conditional formatting</p> <p>Week 14 : Statistical tests</p> <p>Week 15 : Examples and applications</p> <p>Week 16 : Final exam</p>
<p><b>指定閱讀</b> (請詳列每週學生應配合閱讀之篇章)</p>	n/a
<p><b>延伸閱讀</b></p>	n.a
<p><b>成績評量方式</b> (可包含本課程對學生課外學習之要求)</p>	<p>50% Homework</p> <p>20% Mid-term exam</p> <p>30% Final exam</p>
<p><b>最近三年評鑑值</b> (申請新開之課程如在近三年內曾教授類似課程者請填寫)</p>	<p>課程名稱：_____</p> <p>第____學年度第____學期：_____；第____學年度第____學期：_____；</p> <p>第____學年度第____學期：_____；第____學年度第____學期：_____；</p> <p>第____學年度第____學期：_____；第____學年度第____學期：_____。</p>
<p><b>對應之聯合國永續發展目標</b></p>	<p>本校為實踐校園永續力及社會責任，鼓勵教師在課程融入聯合國永續發展目標 (Sustainable Development Goals，詳 <a href="https://sustainabledevelopment.un.org/sdgs">https://sustainabledevelopment.un.org/sdgs</a>)，以期培育未來社會的永續人才。授課教師請勾選對應之 SDGs，勾選之數目不限，得做為課程審查的參考資料之一：</p> <p><input type="checkbox"/> SDG 1：終結貧窮 (No Poverty)</p> <p><input type="checkbox"/> SDG 2：終結飢餓 (Zero Hunger)</p> <p><input type="checkbox"/> SDG 3：良好健康與福祉 (Good Health and Well-being)</p> <p><input checked="" type="checkbox"/> SDG 4：優質教育 (Quality Education)</p> <p><input type="checkbox"/> SDG 5：性別平等 (Gender Equality)</p> <p><input type="checkbox"/> SDG 6：潔淨水資源 (Clean Water and Sanitation)</p>

- SDG 7：可負擔之永續能源 (Affordable and Clean Energy)
- SDG 8：良好工作及經濟成長 (Decent Work and Economic Growth)
- SDG 9：工業化、創新及基礎建設 (Industry, Innovation and Infrastructure)
- SDG 10：消弭不平等 (Reduced Inequalities)
- SDG 11：永續城鄉 (Sustainable Cities and Communities)
- SDG 12：負責任之生產消費循環 (Responsible Consumption and Production)
- SDG 13：氣候變遷對策 (Climate Action)
- SDG 14：海洋生態 (Life below Water)
- SDG 15：陸域生態 (Life on Land)
- SDG 16：和平與正義制度 (Peace, Justice and Strong Institutions)
- SDG 17：全球夥伴關係 (Partnerships for the Goals)

二、授課教師申請開授課程之相關著作或近五年 (2017-2021) 所發表之學術性著作目錄 (依實際增刪)

1. Ya-Wen Cheng, Tai-Ling Chao, Chiao-Ling Li, Sheng-Han Wang, Han-Chieh Kao, Ya-Min Tsai, Hurng-Yi Wang, Chi-Ling Hsieh, **You-Yu Lin**, Pei-Jer Chen, Sui-Yuan Chang, Shiou-Hwei Yeh. D614G Substitution of SARS-CoV-2 Spike Protein Increases Syncytium Formation and Virus Titer via Enhanced Furin-Mediated Spike Cleavage. *mBio*. 2021 Aug 31;12(4):e0058721.
2. Huei-Ru Cheng, Hung-Chih Yang, Su-Ru Lin, Ta-Yu Yang, **You-Yu Lin**, Tung-Hung Su, Tai-Chung Tseng, Chun-Jen Liu, Jia-Horng Kao. Combined viral quasispecies diversity and hepatitis B core-related antigen predict off-nucleos(t)ide analog durability in HBeAg-negative patients. *Hepato Int*. 2021 Jun;15(3):582-592.
3. Chia-Hua Chen, Ya-Jui Lin, **You-Yu Lin**, Chang-Hung Lin, Li-Ying Feng, Ian Yi-Feng Chang, Kuo-Chen Wei and Chiung-Yin Huang. Glioblastoma Primary Cells Retain the Most Copy Number Alterations That Predict Poor Survival in Glioma Patients. *Front. Oncol.*, 26 April 2021 | <https://doi.org/10.3389/fonc.2021.621432>.
4. Su-Ru Lin, Ta-Yu Yang, Cheng-Yuan Peng, **You-Yu Lin**, Chia-Yen Dai, Hurng-Yi Wang, Tung-Hung Su, Tai-Chung Tseng, I-Jung Liu, Huei-Ru Cheng, Yueh-Chi Shen, Fang-Yi Wu, Chun-Jen Liu, Ding-Shinn Chen, Pei-Jer Chen, Hung-Chih Yang, Jia-Horng Kao. Whole genome deep sequencing analysis of viral quasispecies diversity and evolution in HBeAg seroconverters. *JHEP Rep*. 2021 Feb 18;3(3):100254.
5. Horng JH, Lin WH, Wu CR, **Lin YY**, Wu LL, Chen DS, Chen PJ. HBV X protein-based therapeutic vaccine accelerates viral antigen clearance by mobilizing monocyte infiltration into the liver in HBV carrier mice. *J Biomed Sci*. 2020 May 28;27(1):70. doi: 10.1186/s12929-020-00662-x.
6. Wang JT\*, **Lin YY\***, Chang SY, Yeh SH, Hu BH, Chen PJ, Chang SC. (2020, Apr). The role of phylogenetic analysis in clarifying the infection source of a COVID19 patient. *Journal of Infection*, 2020 Jul;81(1):147-178.
7. Li CL, Ho MC, **Lin YY**, Tzeng ST, Chen YJ, Pai HY, Wang YC, Chen CL, Lee YH, Chen DS, Yeh SH, Chen PJ. Cell-free virus-host chimera DNA from Hepatitis B virus integration sites as a circulating biomarker of hepatocellular cancer. *Hepatology*. 2020 Mar 14. doi: 10.1002/hep.31230.
8. Shih-Jer Hsu, Sukhee Enkhzaya, **You-Yu Lin**, Tai-Chung Tseng, Tulgaa

- Khosbayar, Cheng-Hsueh Tsai, Tzu-San Wang, Damba Enkhtuya, Dogsom Ivshinkhorol, Nyamsuren Naranzul, Badarch Jargalsaikhan, Jazag Amarsanaa, Oidov Baatarkhuu, Jia-Horng Kao. Resistance-Associated Substitution and Ledipasvir/Sofosbuvir Therapy in Mongolian Chronic Hepatitis C Patients. *Journal of the Formosan Medical Association*. J Formos Med Assoc. 2019 Oct 28. pii: S0929-6646(19)30819-8.
9. Chiao Ling Li, Chen Yu Li, **You Yu Lin**, Ming Chih Ho, Ding Shinn Chen, Shiou Hwei Yeh, Pei Jer Chen (2018, Aug). Androgen Receptor Enhances Hepatic TERT Transcription after Hepatitis B Virus Integration or Point Mutation in Promoter Region. *Hepatology*. 2019 Feb;69(2):498-512.
  10. Chen CH, Chen PY, **Lin YY**, Feng LY, Chen SH, Chen CY, Huang YC, Huang CY, Jung SM, Chen LY, Wei KC. (2019, Jan). Suppression of tumor growth via IGFBP3 depletion as a potential treatment in glioma. *Journal of Neurosurgery*, Jan 11:1-12.
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  12. **Lin YY**, Yu MW, Lin SM, Lee SD, Chen CL, Chen DS, Chen PJ. Genome-wide association analysis identifies a GLUL haplotype for familial hepatitis B virus-related hepatocellular carcinoma. *Cancer*. 2017 Oct 15;123(20):3966-3976
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