元智大學 生物科技與工程研究所碩士學位雙主修修業規則

（一百一十一學年度申請學生適用）

111.03.17 一一○學年度第九次所務會議訂定

111.04.22 一一○學年度第三次課程委員會議修訂

111.04.22 一一○學年度第十一次所務會議通過

111.06.01 一一○學年度第七次教務會議通過

一、本規則依據「本校學生修讀雙主修辦法」訂定之。

二、申請修讀生物科技與工程研究所(以下稱本所)碩士學位雙主修之研究生資格如下：

* 1. 歷年成績平均分數須80分(含)以上。
	2. 須確認本所共同指導教授並獲其原系所指導教授同意。

三、申請期限：第二學期至最高修業年限（含延長修業年限）第一學期止，依校方及本所規定時間提出申請。

四、畢業條件：

1. 修讀本所碩士班雙主修，除應滿足原系所畢業條件外，並須修畢本所畢業學分三分之二以上之學分（至少須修畢24學分(含碩士論文6學分)，選修課程請見生技所碩士學位雙主修必選修科目表），選修學分須涵蓋本所生物科技相關課程與生物工程相關課程，每組課程至少須修一門。
2. 碩士論文研究主題須與生物科技領域相關，並經原系所指導教授與本所共同指導教授同意。若未經同意更改研究領域或主題，本所可以取消修讀資格，於本所已修畢之課程學分，仍可登錄於成績單。
3. 學位論文考試依「本校碩、博士班研究生學位考試細則」辦理，並依本所相關規定提出申請。

五、修讀雙主修學生，已符合原系所畢業資格，但未符合本所畢業資格者，得向教務處提出放棄修讀雙主修，以原系所資格畢業。

六、本規則如有未盡事宜，悉依照本校學生修讀雙主修辦法及相關規定辦理。

七、本規則經所務會議通過並經院課程委員會議及校課程委員會議核備後實施，修正時亦同。

Academic Regulations for Double-Major Master’s Degrees at YZU Graduate School of Biotechnology and Bioengineering

(Applicable to students applying for Academic Year 2022)

Drafted at the 9th Institute Affairs Meeting, Academic Year 2021, on March 17, 2022

Amended at the 3rd Curriculum Committee Meeting, Academic Year 2021, on April 22, 2022

Adopted at the 11th Institute Affairs Meeting, Academic Year 2021, on April 22, 2022

Passed by the 7th Academic Affairs Meeting, Academic Year 2021, on June 01, 2022

Article1 The guidelines are made according to *Regulations for YZU Students Taking*

*Double Majors.*

Article2 The following prerequisites are compulsory for graduate students applying for double-major master’s degrees at YZU Graduate School of Biotechnology and Bioengineering (the “Institute”):

1. The average score for previous years should be higher than or equal to 80.
2. The consent from the co-advisor of the Institute and the advisor of the original institute must be obtained.

Article3 Application period: Opens in the second semester and closes in the first semester of the final year in the study duration (including the extension to the study duration). Applications should be submitted within the time stipulated by YZU and the Institute.

Article4 Graduation requirements:

1. In addition to meeting the graduation requirements of the original institute, students who are pursuing double-major master’s degree programs at the Institute must complete at least two-thirds of the graduation credits of the Institute (or at least 24 credits, including 6 credits for master’s thesis). For elective courses, please refer to the attached List of Required and Elective Courses for Double-Major Master’s Degrees at YZU Graduate School of Biotechnology and Bioengineering. The elective credits must encompass both biotechnology and bioengineering courses, and at least one course must be taken in each group.
2. The topic of the master’s thesis must be related to biotechnology and approved by the advisor of the original institute and the co-advisor of the Institute. If the research area or topic is changed without consent, the Institute may cancel the student’s enrollment, while the course credits completed at the Institute can still be recorded in the transcript.
3. The thesis will be examined per the *Examination Regulations for the Master’s and Doctoral Degrees at YZU*, and the application shall be made as per the relevant regulations of the Institute.

Article5 Students who are pursuing double majors and are qualified to graduate from their original institutes but fail to meet the graduation requirements of the Institute, may apply to the Office of the Registrar to relinquish their double majors and graduate with their qualifications required by the original institute.

Article6 Any matters not covered by these guidelines will be managed under the *Regulations for YZU Students Taking Double Majors* and other relevant rules.

Article7 These regulations will be executed after they are adopted by the Institute Affairs Meeting and filed with the Faculty Curriculum Committee Meeting and the University Curriculum Committee Meeting. The same applies to any amendments to the regulations.

**元智大學　生物科技與工程研究所碩士學位雙主修 必修∕選修科目表**

**（一百一十一學年度申請學生適用）**

**List of Required and Elective Courses for Double-Major Master’s Degrees at YZU Graduate School of Biotechnology and Bioengineering**

**(Applicable to students applying for Academic Year 2022)**

111.04.22 一一○學年度第三次課程委員會議訂定

111.04.22 一一○學年度第十一次所務會議通過

111.06.01 一一○學年度第七次教務會議通過

Drawn up at the 3rd Curriculum Committee Meeting, Academic Year 2021, on April 22, 2022

Adopted at the 11th Institute Affairs Meeting, Academic Year 2021, on April 22, 2022

Passed by the 7th Academic Affairs Meeting, Academic Year 2021, on June 01, 2022

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| --- | --- | --- | --- | --- |
| 必修∕選修類別Required or Elective Course | 課號Course Code | 中文課名Chinese Course Name | 英文課名English Course Name | 學分數Credits |
| 必修Required Course | -- | 碩士論文 | Thesis | 6 |
| 選修Elective Course | BI565 | 書報討論 | Seminar | 1 |
| 生物科技相關選修課程BiotechnologyElective Courses | BI504 | 生物化學特論 | Special Topics in Biochemistry | 3 |
| BI506 | 分子生物學 | Molecular Biology | 3 |
| BI507 | 微生物學特論 | Special Topics in Microbiology | 3 |
| BI509 | 細胞生物學 | Cell Biology | 3 |
| BI510 | 生物資訊學 | Bioinformatics | 3 |
| BI514 | 微生物學實驗 | Microbiology Laboratory | 3 |
| BI515 | 生物化學實驗 | Biochemistry Laboratory | 3 |
| BI517 | 環境微生物學 | Environmental Microbiology | 3 |
| BI530 | 基因體學與蛋白體學 | Genomics and Proteomics | 3 |
| BI531 | 生物統計學 | Biostatistics | 3 |
| BI535 | 微生物遺傳學 | Microbial Genetics | 3 |
| BI536 | 微生物生理學 | Microbial Physiology | 3 |
| BI539 | 基礎生物技術實驗 | Fundamentals of Biotechnology Laboratory | 3 |
| BI544 | 分子遺傳學 | Molecular Genetics | 3 |
| BI545 | 微生物與天然化合物 | Microbial Natural Compound | 3 |
| BI547 | 生質能源概論 | Introduction to Bioenergy | 3 |
| BI548 | 酵素與生質能 | Enzymes and Bioenergy | 3 |
| BI549 | 人體器官系統疾患導論 | Human Diseases: Introduction by Organ System | 2 |
| BI550 | 環境植物生理學 | Environmental Plant Physiology | 3 |
| BI557 | 生物科技倫理 | [Ethics of Biotechnology](http://www.google.com.tw/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&ved=0CEAQFjAB&url=http%3A%2F%2Farchive.innovation.gov.au%2FBiotechnologyonline%2Fbiotec%2Fethics.html&ei=0jEqUfi9G6mPiAfRoYHoDg&usg=AFQjCNEsGYDxy4ewbV9MJDMKoMOuaHcB8A) | 3 |
| BI559 | 食品衛生與安全 | Food Hygiene and Safety | 3 |
| BI561 | 動物細胞培養技術與應用 | Basic Techniques and Applications of Animal Cell Culture | 3 |
| BI562 | 生物科技探索 | Exploring Biotechnology | 3 |
| BI563 | 臨床醫學與生物技術特論 | Issues of Clinical Medicine and Biotechnology | 2 |
| BI564 | 細胞培養技術與應用 | Basic Techniques and Applications of Cell Culture | 3 |
| 生物工程相關選修課程Bioengineering Elective Courses | BI511 | 生物技術產業特論 | Special Topics in Biotechnology Industries | 3 |
| BI516 | 動植物細胞培養技術 | Plant/Animal Cell Culture Technology | 3 |
| BI519 | 發酵工程 | Fermentation Engineering | 3 |
| BI522 | 生物程序工程 | Bioprocessing Engineering | 3 |
| BI529 | 生醫材料 | Biomedical Materials | 3 |
| BI533 | 生化儀器分析 | Bioinstrumentation  | 3 |
| BI534 | 生物分離技術 | Bioseparation Technology | 3 |
| BI538 | 環境生物技術 | Environmental Biotechnology | 3 |
| BI540 | 基因與蛋白質工程學特論 | Special Topics in Genetic and Protein Engineering | 3 |
| BI541 | 工業微生物學特論 | Special Topics in Industrial Microbiology | 3 |
| BI542 | 生化工程實驗 | Biochemical Engineering Laboratory | 3 |
| BI543 | 微生物與生物科技研究方法 | Methods in Microbiology and Biotechnology Research | 3 |
| BI546 | 臨床醫學概論 | Clinical Medicine | 2 |
| BI551 | 植物組織培養及生物技術 | Plant Tissue Culture and Biotechnology | 3 |
| BI554 | 生物技術與基因工程 | Biotechnology and Genetic Engineering | 3 |
| BI555 | 原料藥產業 | Active Pharmaceutical Ingredients, API | 3 |
| BI556 | 生物科技論文寫作 | Scientific Writing of Biotechnology | 3 |
| BI558 | 生物技術新論 | Current Issues in Biotechnology | 3 |
| BI560 | 食品生物技術 | Food Biotechnology | 3 |
| 備註Remarks | 1.申請生技所碩士學位雙主修僅採認本所開設之（BI課號）課程，至少須修畢24學分（含碩士論文6學分），選修學分須涵蓋本所生物科技相關課程與生物工程相關課程，每組課程至少須修一門。2.如有修習BI565書報討論至多採認4學期（4學分）。1. Students pursuing double-major master’s degree programs at the Institute can only take courses with codes beginning with “BI” and must complete a minimum of 24 credits, including 6 credits for master’s thesis. The elective credits must encompass both biotechnology and bioengineering courses of the Institute, and at least one course must be taken in each group.2. A maximum of 4 semesters (4 credits) of BI565 Seminar will be recognized. |

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