TIGP Bio 2026 Spring Syllabus

Basic Molecular Biology II (B2)

For the latest syllabus, please visit the BP website: https://idv.sinica.edu.tw/tigpbio/

Place: Room 308, Institute of Statistical Science, Academia Sinica

Time: Tuesday 09:00-12:00

Chair: Dr. Ho-Ming Chen (homing@gate.sinica.edu.tw)

Aim: Introduce key concepts and methods to manage, integrate and analyze bio big data in the era of post-genomics life sciences

Outline: Big Data in Bioinformatics - From Data-Driven Analysis to Knowledge

Textbook: (Reference books, not required)
1. Scalable Big Data Analytics for Protein Bioinformatics [Publisher: Springer; 1st ed. 2018 edition (September 26, 2018)]
2. Computational Intelligence and Big Data Analytics: Applications in Bioinformatics [Publisher: Springer; 1st ed. 2019 edition (September 9, 2018)]
3. Big Data in Omics and Imaging [Publisher: Chapman and Hall/CRC; 1 edition (June 19, 2018)]
4. Big Data Analytics in Genomics [Publisher: Springer; Softcover reprint of the original 1st ed. 2016 edition (April 25, 2018)]

TA: N/A (Please refer to the lectures respectively shall you have any questions for each class)

Grades: Midterm exam 50%. Final exam 50%.

【For Non-BP student】

For Non-BP student to register/sit-in any BP course, it is required to gain course chair's permission:

(1) Basic Enrollment Information form: https://forms.gle/oK7vJzzrx9EvybbT9
(2) TIGP-BP Course Registration Consent Form
https://idv.sinica.edu.tw/tigpbio/index/TIGP%20Bioinformatics_Class%20Registration%20Consent%20Form.docx

※ Deadline: **the 4th week** of each semester.
※ Signature of the course chair should be collected before submission. Incomplete form will not be accepted.
※Course grade will NOT be given (even class enrollment is completed at school) if fail to follow the procedures.

Week	Date	Topics/Brief Description	Lecturers	Evaluation Method	Email
1	2026/2/24 @Google Meet Only	Genomics and Genome Analysis	Dr. Ueng-Cheng Yang	Take-home exam with a specified deadline: ▶2026/3/10	uyang@nycu.edu.tw
2	2026/3/3 @Google Meet Only	Metabolomics	Dr. Yufeng Jane Tseng	Take-home exam with a specified deadline: ▶2026/3/17	yjtseng@csie.ntu.edu.tw
3	2026/3/10 @Google Meet Only	Epigenomics	Dr. Jer-Young Lin	Take-home exam with a specified deadline: ▶2026/4/2	jeryoung@gate.sinica.edu.tw
4	2026/3/17	Comparative and Evolutionary Genomics	Dr. Chuan Ku	Take-home exam with a specified deadline: ▶2026/4/1	chuanku@gate.sinica.edu.tw
5	2026/3/24	Metagenomics	Dr. Sen-Lin Tang	Take-home exam with a specified deadline: ▶2026/4/30	sltang@gate.sinica.edu.tw
6	2026/3/31	Microbiome	Dr. Sen-Lin Tang		
7	2026/4/7	Review Week (no class)	--	--	--
8	2026/4/14	Midterm Exam (take-home exams, no in-class exam)	--	--	--
9	2026/4/21	Population Genomics	Dr. Jen-Pan Huang	Take-home exam with a specified deadline: ▶ 2026/5/5, at 5:00 PM	jphuang@gate.sinica.edu.tw
10	**2026/4/27 (Mon) 14:00-17:00**	Structural Bioinformatics	Dr. Lee-Wei Yang	Take-home exam with a specified deadline: ▶2026/5/21	lwyang@life.nthu.edu.tw
10	2026/4/28	Class rescheduled to 4/29	--	--	--
10	**2026/4/29 (Wed)** 9:00-12:00 @Google Meet Only	Medical Genomics	Dr. Tai-Ming Ko	Take-home exam with a specified deadline: ▶2026/5/20	taiming23@gmail.com
11	2026/5/5	Class rescheduled to 5/19	--	--	--
12	2026/5/12	Introduction of Proteomics	Dr. Chuan-Chih Hsu	In-class exam on final exam date	cchsu@gate.sinica.edu.tw
13	2026/5/19	Transcriptomics	Dr. Hung-Hsin Chen	Take-home exam with a specified deadline: ▶2026/6/12	hunghsinchen@ibms.sinica.edu.tw
14	2026/5/26	High throughout image analysis	Dr. Jian-Geng Chiou	Take-home exam with a specified deadline: ▶2026/6/9	jchiou@gate.sinica.edu.tw
15	2026/6/2	Review Week (no class)	--	--	--
16	2026/6/9 10:00-12:00	Final Exam	--	--	--

TIGP Bioinformatics Program

Advanced Algorithms (C2)

Spring 2026 Syllabus

For the latest syllabus, please visit the BP website: https://idv.sinica.edu.tw/tigpbio/

Place: Room 308, Institute of Statistical Science, Academia Sinica

Time: Friday 14:00-17:00

Chair: Dr. Li Su (lisu@iis.sinica.edu.tw)
Co-Chair: Dr. Trees-Juen Chuang (trees@gate.sinica.edu.tw)

Outline: This course is basically about data mining, machine learning and statistical modeling from data, and some other algorithms and applications.

Resources:
There are 7 topics given in the way of **Videos Preview** (about 2~3 hours) + **In-class discussions** (about 1~1.5 hours).
Please find the link (**https://reurl.cc/eGWkoL**) that WILL provide the links of the following:
(1) the videos to be watched BEFORE the class
(2) the questions to be discussed IN the class
(3) the homework to be completed AFTER the class

References:
1. Learning from Data- A Short Course (Abu-Mostafa, Magdon-Ismail, Lin, 2012)
2. Learning Pattern Classification (Duda, Harg, and Stork, 2001)
3. An Introduction to Support Vector Machines and Other Kernel-based Learning Methods (Cristianini and Shawe-Taylor, 2000)
4. [DL in Life Science] https://mit6874.github.io/
5. [ML for Genomics] https://www.classcentral.com/course/youtube-6-047-6-878-machine-learning-for-genomics-fall-2020-48203

TA: N/A--was Apriandy Angdresey till 2026/4/14. (Please refer to the lectures respectively shall you have any questions for each class)

Grades: Midterm exam 50%. Final exam 50%.

【For Non-BP student】

For Non-BP student to register/sit-in any BP course, it is required to gain course chair's permission:

(1) Basic Enrollment Information form https://forms.gle/oK7vJzzrx9EvybbT9
(2) TIGP-BP Course Registration Consent Form
https://idv.sinica.edu.tw/tigpbio/index/TIGP%20Bioinformatics_Class%20Registration%20Consent%20Form.docx

※ Deadline: **the 4th week** of each semester.
※ Signature of the course chair should be collected before submission. Incomplete form will not be accepted.
※ Course grade will NOT be given (even class enrollment is completed at school) if fail to follow the above procedures.

Week	Date	Topics/Brief Description	Lecturers	Lecture Style	Evaluation Method	Email
1	**2026/2/25 (Wed)** 14:00-17:00	Data Classification	Dr. Li Su	Lectures	Take-home exam with a specified deadline: ▶ 2026/3/11	lisu@iis.sinica.edu.tw
1	2026/2/27	Class rescheduled to 2/25. Make-up Holiday for 228 Peace Memorial Day (no class)	--	--	--	--
2	2026/3/6	Convolutional Neural Networks, Recurrent Neural Networks (optional: Graph Neural Networks)	Dr. Li Su	Preview videos + in-class discussions	Take-home exam with a specified deadline: ▶ 2026/3/20	chelin@ntu.edu.tw
3	2026/3/13	Hidden Markov Models	Dr. Yu Tsao	Lectures	In-class exam on midterm exam date	yu.tsao@citi.sinica.edu.tw
4	2026/3/20	[DL in Life Science] GWAS and Variants	Dr. Amrita Chattopadhyay	Preview videos + in-class discussions	Take-home exam with a specified deadline: ▶ 2026/4/11	amrita@ntu.edu.tw
5	**2026/3/23 (Mon)** 14:00-17:00 @Google Meet Only	Boolean and Bayesian networks	Dr. Henry Horng-Shing Lu	Online lectures	Take-home exam with a specified deadline: ▶ 2026/4/23	henryhslu@nycu.edu.tw
5	2026/3/27	Class rescheduled to 3/23.	--	--	--	--
6	**2026/4/1 (Wed)** 14:00-17:00	Single cell RNA-seq	Dr. Yao-Ming Chang	Preview videos + in-class discussions	In-class exam on midterm exam date	petitming@ibms.sinica.edu.tw
6	2026/4/3	Class rescheduled to 4/1. Make-up Holiday for Tomb-Sweeping Day and Children's day (no class)	--	--	--	--
7	2026/4/10	Review Week (no class)	--	--	--	--
8	2026/4/17	Midterm Exam	--	--	--	--
9	2025/4/24 (No in-person class)	Network Analysis (Pre-recorded Video) Online Q&A Session on 4/28 at 14:00	Dr. Hsuan-Cheng Huang	Lectures	Take-home exam with a specified deadline: ▶ 2026/6/12	hsuancheng@nycu.edu.tw
10	2026/5/1	Class rescheduled to 5/4. Holiday: International Workers' Day	--	--	--	--
11	**2026/5/4 (Mon)** 14:00-17:00	[DL in Life Science] Graph Analysis [DL in Life Science] Drug Discovery	Dr. Yueh-Hua Tu	Preview videos + in-class discussions	Take-home exam with a specified deadline: ▶ 2026/5/18	a504082002@gmail.com
11	2026/5/8	Class rescheduled to 5/13.	--	--	--	--
12	**2026/5/12 (Tues)** 14:00-17:00	Advanced Algorithms for Proteomics	Dr. Ching-Tai Chen	Preview videos + in-class discussions	Take-home exam with a specified deadline: ▶ 2026/6/9	ctchen@utaipei.edu.tw
12	**2026/5/13 (Wed)** 14:00-17:00	[DL in Life Science] Protein Structure Prediction	Dr. Chien-Yu Chen	Preview videos + in-class discussions	Take-home exam with a specified deadline: ▶ 2026/5/27	chienyuchen@ntu.edu.tw
12	2026/5/15	Class rescheduled to 5/12.	--	--	--	--
13	**2026/5/19 (Tues)** 14:00-17:00	Exploring modeling in enzyme kinetics and pharmacokinetics	Dr. An-Chi Wei	Lectures	Take-home exam with a specified deadline: ▶ 2026/6/12	acwei86@ntu.edu.tw
13	2026/5/22	Class rescheduled to 5/19.	--	--	--	--
14	2026/5/29 @Google Meet Only	Systems Biology and Biological Modeling of Gene Regulation	Dr. Yu-Chao Wang	Preview videos + Online discussions	Take-home exam with a specified deadline: ▶ 2026/6/12	yuchao@nycu.edu.tw
15	2026/6/5	Review Week (no class)	--	--	--	--
16	2026/6/12	Final Exam (take-home exams, no in-class exam)	--	--	--	--

TIGP Bioinformatics Program

Advanced Statistical Methods in Bioinformatics (S2)

Spring 2026 Syllabus

For the latest syllabus, please visit the BP website: https://idv.sinica.edu.tw/tigpbio/

Place: Room 308, Institute of Statistical Science, Academia Sinica

Time: Thursday 9:00-12:00

Chair: Dr. Grace S. Shieh (gshieh@stat.sinica.edu.tw) / Start from 2026/4/1—Dr. Shin-Sheng Yuan (syuan@stat.sinica.edu.tw)

Outline: Introduction to useful and advanced statistical methods in computational biology. The topics include: Analysis of next generation sequencing (NGS) Data (e.g., RNA-Seq and ChIP-Seq), maximum likelihood estimation, the EM algorithm, Bayesian inference, Monte Carlo methods, Resampling (Bootstrap & permutation test), Human Genetics, clustering and classification, dimension-reduction and missing data.

Prerequisite course: Fundamental Statistical Methods in Bioinformatics (S1)

Students who have not taken S1 (or an equivalent course; previous transcripts required) are not allowed to enroll in S2.

Textbook: N/A

TA: N/A (Please refer to the lectures respectively shall you have any questions for each class)□

Grades: Midterm exam 50%. Final exam 50%.

【For Non-BP student】

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(1) Basic Enrollment Information form: https://forms.gle/oK7vJzzrx9EvybbT9

(2) TIGP-BP Course Registration Consent Form:
https://idv.sinica.edu.tw/tigpbio/index/TIGP%20Bioinformatics_Class%20Registration%20Consent%20Form.docx

※ Deadline: **the 4th week** of each semester.

※ Signature of the course chair should be collected before submission. Incomplete form will not be accepted.

※Course grade will NOT be given (even class enrollment is completed at school) if fail to follow the above procedures.

Week	Date	Topics/Brief Description	Sub-topics/Detail Descriptions	Lecturers	Evaluation Method	Email
1	**2026/2/25 (Wed)** 9:00-12:00	Analysis of NGS data I	Analysis of DNA sequencing data	Dr. Shih-Kai Chu	Take-home exam with a specified deadline: ▶2026/4/2	uhcnivag@gm.ntpu.edu.tw
2	**2026/3/4 (Wed)** 9:00-12:00	Analysis of NGS data II	Analysis of RNA sequencing data	Dr. Shih-Kai Chu		
3	2026/3/12	Maximum likelihood estimates and the EM algorithm I	Maximum likelihood estimates	Dr. Yen-Tsung Huang	Take-home exam with a specified deadline: ▶2026/4/16	ythuang@stat.sinica.edu.tw
4	2026/3/19	Maximum likelihood estimates and the EM algorithm II	The EM algorithm	Dr. Yen-Tsung Huang		
5	2026/3/26	Bayesian Statistics	prior dist., conjugate families & applications to genetics	Dr. Grace S. Shieh	In-class exam on midterm exam date	gshieh@stat.sinica.edu.tw
6	**2026/4/1 (Wed)** 9:00-12:00	Resampling methods	Bootstrap for hypothesis testing , confidence interval, and Permutation method	Dr. Grace S. Shieh	Take-home exam with a specified deadline: ▶2026/4/16	
7	2026/4/9	Monte Carlo Markov Chains	Monte Carlo Markov Chains	Dr. Shin-Sheng Yuan	Take-home exam with a specified deadline: ▶2026/4/30	syuan@stat.sinica.edu.tw
8	2026/4/16	Midterm Exam	--	--	--	
9	2026/4/23	Prediction of Drug Response	Feature selction, logistic ridge, KNN, ML and transfer learning	Dr. Grace S. Shieh	No exam.	gshieh@stat.sinica.edu.tw
10	2026/4/30	Cluster Analysis	K-Means, Hierarchical Clustering, Heatmap, Cluster Validation	Dr. Han-Ming Wu	Take-home exam with a specified deadline: ▶2026/6/4	wuhm@g.nccu.edu.tw
11	2026/5/7	Classification and Its Assessment	ROC Curve, Decision Tree, Ensemble Methods	Dr. Han-Ming Wu		
12	2026/5/14	Statistics in Human Genetics/Genomics I	Concept of Statistical Genetics, International Genomic Projects, Linkage Analysis, Genetic Association Analysis	Dr. Hsin-Chou Yang	Take-home exam with a specified deadline: ▶2026/6/11	hsinchou@stat.sinica.edu.tw
13	**2026/5/22 (Fri) 14:00-17:00**	Statistics in Human Genetics/Genomics II	Genome-Wide Association Study, Gene-Gene Interaction, Rare Variant Analysis, Polygenic Risk Score	Dr. Hsin-Chou Yang		
14	2026/5/28	Advanced regression and dimension reduction I	Sliced Inverse Regression and PHD	Dr. Shin-Sheng Yuan	Take-home exam with a specified deadline: ▶2026/6/11	syuan@stat.sinica.edu.tw
15	2026/6/4	Advanced regression and dimension reduction II	Liquid Association and related developments	Dr. Kang-Chung Yang	Take-home exam with a specified deadline: ▶2026/6/12	kcyang@stat.sinica.edu.tw
16	2026/6/11	Final Exam (take-home exams, no in-class exam)	--	--	--	

TIGP Bioinformatics Program
Seminar
Spring 2026 Syllabus

For the latest syllabus, please visit the BP website: https://idv.sinica.edu.tw/tigpbio/

Seminar Announcement: https://www.stat.sinica.edu.tw/cht/index.php?
Place: Room 308, Institute of Statistical Science, Academia Sinica.
Time: Thursday 14:00-15:20
Chair: Academia Sinica: Dr. Chung-Yen Lin (Informatics), Dr. Chien-Ling Lin (Biology), Dr. Wei-chung Liu (Statistics)
Remarks:
1. Attend 2 non-BP Seminars (on or off campus) conducted in English within the current semester.
*The deadline for the report is **June 15th, 2026**.
2. Write 2 seminar reports (1-page A4, 12pt font, single-spaced). Template: https://idv.sinica.edu.tw/tigpbio/resources/Seminar_Student%20Report.pdf
3. Send the reports to your advisor/lab professor for grading and signature.
4. Submit the graded and signed reports (PDF file) to the BP office before the deadline.

Grades: Attendance 100% (2 non-BP seminar reports included)

Week	Date	Topics/Brief Description	Speaker's Affiliation	Speaker	Abstract	Student Host
1	2026/2/26	Decoding the principles of cell polarity through dynamic systems theory	Institute of Plant and Microbial Biology, Academia Sinica	Dr. Jian-Geng Chiou	🔗	Ru-Yin Jian
2	2026/3/5 Online Only	AI in drug discovery and development	Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University	Prof. Yufeng Jane Tseng	🔗	Cai-Sian Liao
3	2026/3/12	Leveraging Taiwan Biobank WGS Data to Improve Precision Diagnosis and Population Health in Taiwan	Graduate Institute of Medical Genomics and Proteomics, National Taiwan University	Prof. Jacob Shujui Hsu	🔗	Ching-Ya Lin
4	2026/3/19	An Efficient Approach for Identifying Important Biomarkers for Biomedical Diagnosis	Institute of Statistical Science, Academia Sinica	Dr. Frederick Kin Hing Phoa	🔗	Saptashwa Datta (1)
5	**2026/3/25 (Wed) 10:00-11:20**	Polygenic Prediction of Antidepressant Treatment Response	Center for Neuropsychiatric Research, National Health Research Institutes	Dr. Yen-Feng Lin	🔗	Daniel Nelson (1)
5	2026/3/26	Exploring Protein Conformations and Ligand Binding Using Molecular Dynamics and Machine Learning	Ph.D. Program in Biomedical Artificial Intelligence, National Tsing Hua University	Prof. Kazuhiro Takemura	🔗	Hsin-Ying Chang (1)
6	2026/4/2 (Moved to 3/25)	--	--	--	--	--
7	2026/4/9	Review Week (no class)	--	--	--	--

8	2026/4/16	Midterm Exam Week (no class)	--	--	--	--
9	2026/4/23	Bioinformatics for Intelligent Drug Discovery	The Master Program of AI Application in Health Industry, Kaohsiung Medical University	Prof. Cheng-Wei Cheng	🔗	Hsin-Ying Chang (2)
10	2026/4/30	Structure determination beyond the reach of AlphaFold: a case of an intrinsically disordered protein deteriorating amyloidogenesis-related neurodegenerative diseases	Research Center for Applied Sciences, Academia Sinica	Prof. Jung-Hsin Lin	🔗	Ya-Chu Hsu (1)
11	2026/5/7	AI and Big Data Analytics for Antimicrobial Resistance Detection and Drug Development	Institute of Bioinformatics and Systems Biology, National Yang Ming Chiao Tung University	Prof. Tzong-Yi Lee	🔗	Daniel Nelson (2)
12	2026/5/14	DNA Methylation Informs Solid Organ Transplantation Outcomes	Master's Program in Smart Medicine and Health Informatics, National Taiwan University	Prof. Fei-Man Hsu	🔗	Thi Huong Giang Pham
13	2026/5/21	Polygenic Risk Prediction at Scale: Methods, Equity, and Public Health Applications	Institute of Health Data Analytics and Statistics, National Taiwan University	Prof. Yen-Chen Anne Feng	🔗	Saptashwa Datta (2)
14	2026/5/28	Single Cell "Not Just" Profilings	Institute of Biomedical Sciences, Academia Sinica	Dr. Shih-Yu Chen	🔗	Ya-Chu Hsu (2)
15	2026/6/4	Review Week (no class)	--	--	--	--
16	2026/6/11	Final Exam Week (no class)	--	--	--	--

TIGP Bioinformatics Program
Student Presentation
Spring 2026 Syllabus & Guidelines

Latest syllabus: https://idv.sinica.edu.tw/tigpbio/

Place: Online (Google Meet): https://meet.google.com/bcg-pmrx-yhv

Time: Thursday, 15:30-17:00

Chair: Dr. Hsuan-Cheng Huang (hsuancheng@nycu.edu.tw)

*Effective from the 2014 Fall semester, all TIGP-BP students are required to present once a semester in student presentation.

*First Year Students: the paper should be assigned by your lab professor.

*The following schedule is confirmed and will not be changed. Please contact Dr. Hsuan-Cheng Huang if you do have difficulty with the assigned date.

*The presenter shall introduce the host and attended professors at the beginning of each seminar.

Week	Date	Topic	Student	Instructor *BP student's presentation should be evaluated by their respective thesis advisor or lab advisor.
1	2026/2/26	Identifying temporal and spatial patterns of variation from multimodal data using MEFISTO	Thi Huong Giang Pham (BP)	Dr. Chen-Ching Lin
2	2026/3/5	Using deep learning to annotate the protein universe	Ya-Chu Hsu (BP)	Dr. Huai-Kuang Tsai
3	2026/3/12	Protein Set Transformer: a protein-based genome language model to power high-diversity viromics	Hsin-Ying Chang (BP)	Dr. Chuan Ku
4	2026/3/19	The SecM arrest peptide traps a pre-peptide bond formation state of the ribosome	Saptashwa Datta (BP)	Dr. Kazuhiro Takemura
5	2026/3/26	No class	--	--
6	2026/4/2	Complex genetic variation in nearly complete human genomes	Daniel Nelson (BP)	Dr. Shu-Jui Hsu
7	2026/4/9	Review Week (no class)	--	
8	2026/4/16	Midterm Exam Week (no class)	--	

9	2026/4/23	DNA shape and epigenomics distinguish the mechanistic origin of human genomic structural variations	Ru-Yin Jian (BP)	Dr. Huai-Kuang Tsai
10	2026/4/30	Cross-species gene redesign leveraging ortholog information and generative modeling	Hsuan-Ya Chiu (NYCU)	Dr. Hsuan-Cheng Huang
11	2026/5/7	Robust and interpretable prediction of gene markers and cell types from spatial transcriptomics data	Ching-Ya Lin (BP)	Dr. Hsuan-Cheng Huang
12	2026/5/14 Canceled	--	Apriandy Angdresey (BP)	Dr. Hsin-Chou Yang
13	2026/5/21	Multimodal AI generates virtual population for tumor microenvironment modeling	Hsu-Ching Huang (NYCU)	Dr. Hsuan-Cheng Huang
14	2026/5/28	No class		
15	2026/6/4	Review Week (no class)	--	
16	2026/6/11	Final Exam Week (no class)	--	

< Seminar presentation guidelines on the following pages >

Seminar presentation guidelines for Ph.D. program students:

2025-07-10

This research seminar course is intended to provide students planning a research career in Bioinformatics with the opportunity to develop the skill of critically reading and evaluating research papers. The course consists of a weekly timetabled session in which students will read, present and discuss research papers published on high impact journals. A fixed threshold of impact factors is not imposed. Use your common sense instead.

Guidelines:

1. **Research article**: Each week, students will choose RESEARCH papers to be presented.
    a. For NYCU students not in the TIGP-Bio program, the paper (+ supplements) pdf file should be emailed to (1) hsuancheng@nycu.edu.tw (Dr. Hsuan-Cheng Huang), (2) tigpbio@gate.sinica.edu.tw (TIGP-Bioinformatics Program office), (3) all students in student presentation class, and also (4) other participating professors at least one week before your in-class seminar presentation takes place. Any delay will result in 10 points deducted from your final grade. Please also send the slides to everyone 2 days before the report. Because some modifications may be made right before the report, it is okay if the slides are not the final version.
    b. For TIGP-Bio students, the paper (+ supplements) pdf file should be emailed to (1) your thesis advisor/lab advisor, (2) tigpbio@gate.sinica.edu.tw (TIGP-Bioinformatics Program office), (3) all students in student presentation class, and also (4) other participating professors at least one week before your in-class seminar presentation takes place. Any delay will result in 10 points deducted from your final grade. Please also send the slides to everyone 2 days before the report. Because some modifications may be made right before the report, it is okay if the slides are not the final version.

1. **Article selection:** You are required to select a recent RESEARCH article that was published after September 2020. (Review articles are NOT acceptable.)

2. **Presentations**: Everyone in the class will present one paper. You should plan to talk for around 40 minutes. Starting from this you should initiate a discussion of the paper (so it is a good idea to conclude your slide presentation with a selection of points to consider and discuss). We should plan to have time for a lively discussion of each paper; your job in giving a presentation is to initiate this discussion. Make sure to
    a. Draw **valid** conclusions from results of your presented paper.
    b. Summarize evidence for each conclusion. (How does the paper support its conclusions?)
    c. Compare the results with other similar experiments published previously, if appropriate.

- Please refrain from presenting an article written by your supervisor or your friends/classmates. You need to increase the exposure to the breadth and depth of bioinformatics research.
- Students are encouraged to prepare a few questions for group discussion at the end of the presentation. Students are not expected to simply sit in the class.
- Please make a rehearsed presentation if you don't know how long your presentation is going to last. An over-length presentation doesn't translate to a good one.

3. **Language of presentation**: You are required to present your research article in English.

Evaluation Criteria:

You will be evaluated by the following criteria:

1. Your attendance (10%).
2. Your seminar presentation (90%).

TIGP Bio Spring 2026 Syllabus

Lab Rotation

Dear First-Year Students:

1. Your lab advisor must be one of the BP core faculty.
2. Get in touch with your intended lab advisor and inform the BP office for the laboratory you are rotating by **March 1st, 2026**.
3. Submit the Lab Rotation Form with lab advisor's signatures and score to the BP office by **June 15th, 2026**.

Student (2025 enrolled)	Lab Advisor
Ching-Ya Lin 林靖雅	Dr. Hsuan-Cheng Huang 黃宣誠
Ya-Chu Hsu 許雅筑	Dr. Huai-Kuang Tsai 蔡懷寬
Thi Huong Giang Pham 范香江	Dr. Chen-Ching Lin 林振慶
Daniel Nelson 曾懌康	Dr. Shu-Jui Hsu 許書睿
Saptashwa Datta 薩普塔	Dr. Kazuhiro Takemura 竹村和浩