Term Information

Effective Term	Spring 2027

General Information

Course Bulletin Listing/Subject Area	Molecular Genetics
Fiscal Unit/Academic Org	Molecular Genetics - D0340
College/Academic Group	Arts and Sciences
Level/Career	Undergraduate
Course Number/Catalog	4810
Course Title	Advances in Genetic Biotechnology
Transcript Abbreviation	AdvGenBiotech
Course Description	Course focuses on biotechnology in the genetic sector and explores recent breakthroughs and emerging technologies in this field, such as regulation of gene expression, genome editing, synthetic biology, and applications in medicine and agriculture. Students will engage with primary literature and learn to critically evaluate research data, developing skills for career in biotech and beyond.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	Completion of MolGen4500 or MolGen4606 with a grade of C- or higher, or permission of instructor
Exclusions	
Electronically Enforced	Yes

Cross-Listings

Cross-Listings	Biotech Science, Molecular Genetics

Subject/CIP Code

Subject/CIP Code	26.0804
Subsidy Level	Baccalaureate Course
Intended Rank	Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors
The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- • Describe the historical origins of various modern biotechnologies.
- • Explain commonly employed methods in biotechnology.
- • Describe applications of biotechnology in medicine and agriculture.
- • Describe the use of genetic biotechnology in product synthesis, including metabolic pathway engineering and synthetic biology approaches.
- • Summarize current gene therapy strategies and their clinical applications in treating genetic diseases and cancer.
- • Demonstrate ability to interpret raw and processed data sets.
- • Describe and debate ethical dilemmas in genetic engineering and biotechnology.
- • Critically evaluate peer-reviewed papers.
- • Demonstrate effective leadership and collaboration within group work.

Content Topic List

- The origins of modern biotechnology
  - Review of recombinant DNA technologies
  - Methods of genetic engineering and genome modification/editing
  - Epigenetics and gene expression
  - Genetic Engineering of Metabolic Pathways
  - Synthetic biology
- Biotechnology and Environmental Impact
  - Gene Therapy
  - Applications of genetic biotechnology in agriculture
  - Tissue engineering
  - Patenting and Intellectual Property

Sought Concurrence

Yes

Attachments

- MG4810 biotechnology syllabus_20251212.pdf: Course syllabus

  (Syllabus. Owner: Dobritsa,Anna)

- Concurrence from BME_20251217.pdf: Concurrence from BME

  (Concurrence. Owner: Dobritsa,Anna)

- Concurrence from ChemBiochem_20251214.pdf: Concurrence from CBC

  (Concurrence. Owner: Dobritsa,Anna)

- Concurrence from CLSE_20251212.pdf: Concurrence from CLSE

  (Concurrence. Owner: Dobritsa,Anna)

- Concurrence from EEOB_20260105.pdf: Concurrence from EEOB

  (Concurrence. Owner: Dobritsa,Anna)

- Concurrence from Micro_20260105.pdf: Concurrence from Microbiology

  (Concurrence. Owner: Dobritsa,Anna)

- MG4810_Cover letter.pdf: Cover letter

  (Cover Letter. Owner: Dobritsa,Anna)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Dobritsa,Anna	01/06/2026 12:39 PM	Submitted for Approval
Approved	Dobritsa,Anna	01/06/2026 12:39 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	01/19/2026 06:35 PM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Neff,Jennifer Vankeerbergen,Bernadette Chantal Wade,Macy Joy Steele,Rachel Lea	01/19/2026 06:35 PM	ASCCAO Approval

THE OHIO STATE UNIVERSITY

Department of Molecular Genetics

Dr. Anna Dobritsa
015 Rightmire Hall
1060 Carmack Rd.
Columbus, OH 43210
614-688-2197 Phone
dobritsa.1@osu.edu
molgen.osu.edu

January 6, 2026

Dear Members of the ASCC,

The Department of Molecular Genetics is requesting the creation of a new course, **MolGen 4810: Advances in Genetic Biotechnology.**

This course is designed to be one of the four options of Advanced Biotechnology, a core course in the proposed new major and minor in Biotech Science. The four options are developed by four departments (Chemistry and Biochemistry, EEOB, Microbiology, and Molecular Biology) and focus on different aspects of biotechnology from the perspective of respective disciplines. The MolGen 4810 course focuses on biotechnology in the genetic sector and explores recent breakthroughs and emerging technologies in this field. Topics will include regulation of gene expression, genome editing technologies (CRISPR and beyond), synthetic biology, discovery and reconstitution of biosynthetic pathways for production of metabolites and drugs, and applications in medicine and agriculture. Students will engage with primary literature and learn to critically evaluate cutting-edge research, providing foundational knowledge and skills for careers in biotechnology and beyond.

Besides serving as a core option in Biotech Science major and minor, this course will also be a possible elective for students majoring in Biotech Science, Molecular Genetics, and possibly other Life Sciences programs.

We have requested and obtained concurrence from relevant ASC departments and from the Department of Biomedical Engineering.

Sincerely,

Anna Dobritsa, PhD

Vice-Chair for Education, Molecular Genetics

Molecular Genetics 4810, Advances in Genetic Biotechnology

Semester XXX
Lecture course, 3 credit hours
2x/week for 80 minutes

Instructor TBA
Office TBA
Email TBA
Phone TBA
Office Hours TBA

Course Description

This upper-level course explores recent breakthroughs and emerging technologies in the field of biotechnology, with a focus on biotechnology in the genetic sector. Topics will include regulation of gene expression, genome editing technologies (CRISPR and beyond), synthetic biology, discovery and reconstitution of biosynthetic pathways for production of metabolites and drugs, and applications in medicine and agriculture. Students will engage with primary literature and learn to critically evaluate cutting-edge research, providing foundational knowledge and skills for careers in biotechnology and beyond.

Prerequisites

Completion of MolGen4500 or MolGen4606 with a grade of C- or higher, or permission of instructor

Course learning outcomes

Upon course completion the student will be able to:

- Describe the historical origins of various modern biotechnologies.
- Explain commonly employed methods in biotechnology.
- Describe applications of biotechnology in medicine and agriculture.
- Describe the use of genetic biotechnology in product synthesis, including metabolic pathway engineering and synthetic biology approaches.
- Summarize current gene therapy strategies and their clinical applications in treating genetic diseases and cancer.
- Demonstrate ability to interpret raw and processed data sets.
- Describe and debate ethical dilemmas in genetic engineering and biotechnology.
- Critically evaluate peer-reviewed papers.
- Demonstrate effective leadership and collaboration within group work.

Course website:
Some notes and supplemental materials will be available on Carmen/Canvas. If you have not used Carmen before you can access information about student usage here.

Course communication:
Announcements through Carmen are the main communication pathway for the class. I urge you to adjust carmen notification settings so you are alerted to new announcements. The best way to communicate with me is via email either through Carmen or from your buckeyemail.osu.edu email. Please be aware that emails from addresses other than buckeyemail.osu.edu email may be missed or may be sent to my junk or spam folder by the OSU email system. Please include the class name and number in the title of your email.

Workload expectations:
This course is a 3-credit hour class. For each credit hour, students can generally expect to spend at least 3 hours per week on work associated with the class (counting time in and out of class). This class meets twice a week for 80 minutes/meeting, and I anticipate that students will need to devote additional time to the course outside of class meetings (for reading, completing assignments and projects, and studying), leading to a commitment of at least 9 hours per week. Each module will begin with a foundational lecture and then have a student-led discussion of a primary journal article on the corresponding topic. Students can anticipate reading at least one journal article each week: this will be a primary literature article that is presented and discussed. I have also recommended supplementary review articles that may provide supporting material for the foundational lectures. Be aware that the readings will be dense and may take more time than you predict!

Required Course Materials
Required readings will be provided on or linked in the CarmenCanvas course site. Assigned readings should be completed in advance of the class for which they are scheduled.
There is no textbook required for the course. Optional background readings (on reserve in Thompson Library) in the following texts may support your learning.

- Alberts et al., *Molecular Biology of the Cell*, (Comprehensive cell and molecular biology text)
- Lodish et al., *Molecular Cell Biology*, 8th Edition (Detailed molecular techniques)

Carmen access
You will need to use BuckeyePass multi-factor authentication to access your courses in Carmen. We recommend that you:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the Duo Mobile application to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

Course Technology
For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help, and support for urgent issues is available 24/7.

- **Phone:** 614-688-4357(HELP)
- **Email:** servicedesk@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills for course

- Basic computer and web-browsing skills
- Navigating Carmen: for questions about specific functionality, see the Canvas Student Guide.

Required equipment

- Computer: current Mac (OS X) or PC (Windows 10) with high-speed internet connection
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass authentication

Software

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found at go.osu.edu/office365help.

Course Grading:

Engagement with the primary literature	
Discussion participation and submitted questions	10%
Paper presentation	15%
Paper roundup	5%
Exams	
Midterm 1	20%
Midterm 2 (held during final exam week)	20%
Biotech project	
Approval of topic	5%
Annotated bibliography	5%
Writeup for a public audience	5%
Poster	15%

Engagement with the Primary Literature (30% total)

Each topic area will include at least one representative paper from the primary literature. These papers are intended to help students understand the current development and uses of biotechnology in our society. You must read every paper in advance of the day it is discussed in class even if you are not presenting this paper. Each research article will be presented by a small group of students (every student will present once during the semester). If you are not presenting on a given day, you will be graded based on your participation during the class discussion, including spontaneous questions and answers and on your submitted questions (see below). Twice during the semester, we will have paper roundup sessions where trailing questions from papers that were presented will be discussed and clarified.

a) Participation/submitted questions (10%) You are expected to come to class prepared to take part in a discussion of the assigned paper. During the class, the presenting group or the instructor may ask questions of the audience, and the audience is encouraged to ask questions of the presenters. Active engagement during the presentation counts towards the day's participation grade. In addition, each student who is not assigned to present must submit one question about the paper to Carmen by 5:00 pm the prior day. Some of these questions may be addressed during the presentation; others may be held over to the paper roundup. With 9 papers for which you will be submitting questions, the discussion participation/submitted question for each paper counts for a little more that 1% of your final grade.

b) Journal Article Presentation (15 %) You will work with a group to present a journal article once during the semester. Papers will be assigned during the first week of the class and groups must set up a meeting with the instructor at least one week prior to their presentation to work through any issues. Presentations should be timed to last no more than 30 minutes, so that the presentation and class discussion can be completed in 50 minutes, leaving 30 minutes at the end of each presentation day to work on scaffolded elements of the biotech project. Detailed presentation expectations will be discussed and posted on the first day of class.

c) Journal article roundup (5%) For each journal article, all student questions will be placed in a shared document that all students can contribute to. You are expected to contribute to answering two questions about each paper. The best answers will be on-topic, insightful, and may include references or links that provide further illumination into the question.

Exams (20% each)

The course will include two exams each worth 20% of the final grade. The second exam is scheduled during the final exam slot assigned by the registrar, but is not comprehensive.

Biotechnology project (30% total)

You will research a current topic in genetic biotechnology, synthesize the information, write about the topic for a "lay" audience, and finally present your findings in a scientific poster format. I will provide sample topics, but we will spend time brainstorming in the first weeks of class to help you identify a current topic of interest to you that is in the area of genetic biotechnology.

a) *Approval of topic (5%)* Your topic must be approved by the end of the fourth week of class. You will submit a one-paragraph summary of your topic to Carmen that includes a brief description of why you think it represents an important advance in genetic biotechnology by midnight on September 17th. Topics may, but do not have to, relate to topics directly covered in class.

b) *Annotated bibliography (5%)* You must identify at least 4 scholarly sources, at least two of which must be primary research articles (ie not scholarly reviews), and write one paragraph on each describing how the content of these articles relates to your project topic. Submit to Carmen by midnight on October 22nd.

c) *Writeup for a public audience (5%)* Here the goal is to communicate about a current topic in genetic biotechnology with an audience that may not have a strong background in genetics. Your submission should be approximately two double-spaced pages, and should include inline citations and a bibliography of the sources you used (at least 4 scholarly sources must be cited). You may take a creative approach to this project if you desire (for instance, a letter to a legislator or a letter to an editor, a writeup for a science blog, or a script for a podcast would all be acceptable), but please clear your plan with the instructor in advance. This writeup is due on Carmen by midnight on November 10th.

d) *Poster: (15%)* Posters are a common method of communication in many scientific fields. The best posters are clear, concise, and informative. They have a structure that makes it easy to follow your logic, and are easy to read. They use strong visual elements and limited text to emphasize important points. A strong poster will rely primarily on illustrations with limited text; when text is used, it is usually in the form of bullet points. Your poster presentation should provide sufficient context for the listener to understand the topic. You will present your project as a poster at one of two poster sessions in the last two weeks of class. You will present your poster to visitors, and should be able to complete your entire presentation in 5-6 minutes if there are no interruptions or questions. Illustrations on the poster provide a way for you to visually outline or emphasize complex ideas for your audience. The best posters will provide a rigorous scientific explanation, provide sufficient context to position your topic as an important advance in biotechnology, and engage with any ethical or societal concerns that might arise. Regardless of which day you present, a copy of your poster and a link to 5-10 minute video of your poster presentation must be uploaded to Carmen by midnight on December 1st.

Grading scale

Final grades assigned will reflect the grading scheme below, however, I reserve the right to adjust the lower limits for each grade category downwards if justified by overall class performance (i.e., a 90% is guaranteed to receive an A-, but in some cases an A- may be assigned for a performance below 90%).

A 100% to 93%	B < 87% to 83%
A- < 93% to 90%	B- < 83% to 80%
B+ < 90% to 87%	C+ < 80% to 77%

C < 77% to 73%
C- < 73% to 70%
D+ < 70% to 67%
D < 67% to 60%
E < 60% to 0%

University policies

This course will conform to the standard university policies regarding

- Academic Misconduct
- Student Life - Disability Services
- Religious Accommodations
- Intellectual Diversity

The details of these polices are found at the Office of Undergraduate Education's Syllabus Policies & Statements webpage

Class Attendance policy

In general, if you miss a class meeting, you should get notes from a classmate, read the relevant materials, and then you may make an appointment with the me to go over any material you need assistance with.

Engagement in journal article discussions is a critical component of the class, and out of class replacements do not achieve our learning goals in the same way. Your lowest grade in the "participation/submitted questions" category will be dropped to account for unavoidable absences (illnesses, interviews, etc), and up to one additional excused absence from a journal discussion can be made up by completing a written assignment.

An excused absence from a midterm exam (illness, university activity, etc) will lead to an opportunity to make up the exam within one week of the original exam date. If this is not possible, please reach out to me as soon as practical to discuss alternative arrangements. An excused absence from the final exam will result in an assignment of an "Incomplete". Should this happen, please contact me as soon as practical to work out details for a makeup exam.

If you are unable to attend class on a day you are scheduled to present a journal article or your poster, please reach out to me as soon as practical so we can discuss a path forward.

Should in-person classes be canceled, I will notify you as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via CarmenCanvas.

TENTATIVE SCHEDULE *(based on 28 total class meetings)*
Note: We will hold a vote during the first week of class regarding the last two topics to cover (November 10/12 and November 17/19), allowing us to identify emerging topics of interest to the group

Tuesday, August 25
- Lecture: The origins of modern biotechnology

Thursday, August 27
- Lecture: Review of recombinant DNA technologies

Module 1. Methods of genetic engineering and genome modification/editing

Tuesday, September 1
- Lecture: Genetic engineering and genome modification/editing
- This review may contain helpful material: Khalil AM. (2020) The genome editing revolution: review. J Genet Eng Biotechnol. doi: 10.1186/s43141-020-00078-y.

Thursday, September 3
- Paper presentation: Anzalone AV et al. (2019) Search-and-replace genome editing without double-strand breaks or donor DNA. Nature. doi: 10.1038/s41586-019-1711-4.
- Project milestones: Brainstorm project topics

Module 2. Epigenetics and gene expression

Tuesday, September 8
- Lecture: Epigenetics and gene expression
- This review may contain helpful material: Bendixen L et al. (2023) CRISPR-Cas-mediated transcriptional modulation: The therapeutic promises of CRISPRa and CRISPRi. Mol Ther. doi: 10.1016/j.ymthe.2023.03.024.

Thursday, September 10
- Paper presentation: Kristof A et al. (2025) Engineering novel CRISPRi repressors for highly efficient mammalian gene regulation. Genome Biol. doi: 10.1186/s13059-025-03640-4.
- Project milestones: Brainstorm project topics

Module 3. Genetic Engineering of Metabolic Pathways

Tuesday, September 15
- Lecture: Genetic engineering of metabolic pathways for production of metabolites and drugs
- This review may contain helpful material: Pickens LB et al. (2011) Metabolic engineering for the production of natural products. Annu Rev Chem Biomol Eng. doi:10.1146/annurev-chembioeng-061010-114209.

Thursday, September 17
- Paper presentation: McClune CJ et al. (2025) Discovery of FoTO1 and Taxol genes enables biosynthesis of baccatin III. Nature. doi: 10.1038/s41586-025-09090-z
- Project milestones: Work on finalizing project topics
- **DUE**: Your project topic proposal is due this Thursday at midnight

Module 4. Synthetic biology

Tuesday, September 22

- Lecture: Synthetic biology
- This review may contain helpful material: Vasilev, R.A. et al. (2021) Synthetic Biology: Current State and Applications. Mol. Genet. Microbiol. Virol. doi: 10.3103/S0891416821010079

Thursday, September 24

- Paper presentation: Gander, M., Vrana, J., Voje, W. *et al.* Digital logic circuits in yeast with CRISPR-dCas9 NOR gates. *Nat Commun* **8**, 15459 (2017). doi: 10.1038/ncomms15459
- Project milestones: Discussion of scholarly sources and how to identify them

Ethics session 1

Tuesday, September 29

- Biotechnology and Environmental Impact

Thursday, October 1

- Paper roundup and review

Tuesday, October 6

- Midterm Exam 1

Module 5. Gene Therapy

Thursday, October 8

- Lecture: Gene Therapy
- This review may contain helpful material: Cetin B. et al. (2024) Gene and cell therapy of human genetic diseases: Recent advances and future directions. J. of Celll and Mol Med. doi: 10.1111/jcmm.70056

Tuesday, October 13

- Paper presentation 1: Frangoul et al. (2021). CRISPR Cas9 gene editing for sickle cell disease and ß thalassemia treatment. NEJM, doi: 10.1056/NEJMoa2031054.
- Project milestones: Share scholarly sources identified; support with finding additional sources

Thursday, October 15 NO CLASS: AUTUMN BREAK

Tuesday, October 20

- Paper presentation 2: Hunter TL et al. (2025) In vivo CAR T cell generation to treat cancer and autoimmune disease. Science. doi: 10.1126/science.ads8473.
- Project milestones: Work on annotated bibliography

Module 6. Applications of genetic biotechnology in agriculture

Thursday, October 22

- Lecture: Applications of genetic biotechnology in agriculture

- This review may contain helpful material: Gao C. (2021) Genome engineering for crop improvement and future agriculture. Cell. 2021 Mar 18;184(6):1621-1635. doi: 10.1016/j.cell.2021.01.005.
- **DUE**: Your annotated bibliography is due this Thursday at Midnight

Tuesday, October 27

- Paper presentation: Shi Y. et al. (2025) Enhancing melatonin biosynthesis in crops through synthetic genetic circuits: A strategy for nutritional fortification in soybean and stress resistance in cotton. Plant Biotechnol J. doi: 10.1111/pbi.70253.
- Project milestones: Work on public writeup

Module 7. Tissue engineering

Thursday, October 29

- Lecture: Tissue engineering
- This review may contain helpful material: Unagolla & Jayasuriya (2022) Organoid engineering using biomaterials/bioprinting. doi: 10.1016/j.apmt.2022.101582

Tuesday, November 3 NO CLASS: ELECTION DAY

Thursday, November 5

- Paper presentation: Campo F. et al. (2025) Bioengineering of a human iPSC-derived vascularized endocrine pancreas for type 1 diabetes. Cell Rep Med. doi:10.1016/j.xcrm.2025.101938
- Project milestones: Support on public writeup

Module 8. Class-selected topic 1

Tuesday, November 10

- Lecture: TBD
- Supplementary Review: TBD
- **DUE:** Writeup for public audience is due this Tuesday by midnight

Thursday, November 12

- Paper presentation of class-selected topic 1
- Project milestones: Start poster design

Module 9. Class-selected topic 2

Tuesday, November 17

- Lecture: TBD
- Supplementary Review: TBD

Thursday, November 19

- Paper presentation of class-selected topic 2
- Project milestones: Further input on poster design/presentation

Ethics session 2

Tuesday, November 24

- Patenting and Intellectual Property

Thursday, November 26 NO CLASS: THANKSGIVING

Tuesday, December 1

- Paper roundup and review
- **DUE:** Poster uploads and videos due this Tuesday by midnight

Thursday, December 3

- Poster session 1

Tuesday, December 8

- Poster session 2

Midterm 2 will be taken during the final exam time scheduled by the Registrar

Outlook

Re: Concurrence request for MG4810

From Andrews, Adam <andrews.171@osu.edu>
Date Fri 12/12/2025 1:33 PM
To Dobritsa, Anna <dobritsa.1@osu.edu>
Cc Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>

Anna,

On behalf of the CLSE, I happily offer our concurrence for this course. We look forward to having it as a key part of the proposed Biotech Science Major and Minor programs.

Regards,
Adam

THE OHIO STATE UNIVERSITY
CENTER FOR LIFE SCIENCES EDUCATION

Adam L. Andrews
Assistant Director for Curriculum & Instruction
College of Arts and Sciences | Center for Life Sciences Education

240D Jennings Hall, 1735 Neil Avenue, Columbus, OH 43210
(614) 247-6345 Office / (614) 292-4390 Fax
andrews.171@osu.edu clse.osu.edu

From: Dobritsa, Anna <dobritsa.1@osu.edu>
Date: Friday, December 12, 2025 at 1:22 PM
To: Andrews, Adam <andrews.171@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>, McWhorter, Michelle <mcwhorter.22@osu.edu>, Hollick, Jay <hollick.3@osu.edu>
Subject: Concurrence request for MG4810

Dear Adam,

Molecular Genetics is seeking concurrence from CLSE on the new course MG4810, *Advances in Genetic Biotechnology*, which we propose as one of the capstone/core courses in the new Biotech Science major and minor programs and as a possible elective for students majoring in Molecular Genetics, Biology, and other Life Sciences disciplines. The syllabus is attached.

Thank you,

Anna Dobritsa

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Anna Dobritsa

Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210
(614) 688-2197

Outlook

RE: Concurrence request for MG4810

From Jackman, Jane <jackman.14@osu.edu>
Date Sun 12/14/2025 9:49 AM
To Dobritsa, Anna <dobritsa.1@osu.edu>
Cc Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>

Hi Anna,

We concur. Thanks,
Jane

Dr. Jane E. Jackman (She/her pronouns)
Professor and Vice Chair for Undergraduate Studies
Department of Chemistry and Biochemistry
Vice Chair Office: 110 Celeste Lab
Research Office: 740 Biological Sciences
Mailing Address:
Department of Chemistry and Biochemistry
484 W. 12th Avenue
Columbus, OH 43210
Phone: 614-247-8097

From: Dobritsa, Anna <dobritsa.1@osu.edu>
Sent: Friday, December 12, 2025 1:26 PM
To: Jackman, Jane <jackman.14@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Concurrence request for MG4810

Dear Jane,

Molecular Genetics is seeking concurrence on the new course MG4810, Advances in Genetic Biotechnology, which we propose as one of the capstone/core courses in the new Biotech Science major and minor programs and as a possible elective for students majoring in Molecular Genetics, Biology, and other Life Sciences disciplines.
The syllabus is attached.

Thank you,

Anna

****

Anna Dobritsa
Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210

(614) 688-2197

Outlook

RE: Concurrence request for MolGen 4810

From Childers, Rachel <childers.73@osu.edu>
Date Wed 12/17/2025 3:24 PM
To Dobritsa, Anna <dobritsa.1@osu.edu>; Ghadiali, Samir <ghadiali.1@osu.edu>
Cc Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>

Hello Prof. Dobritsa,

I don't see any issues with concurrence from BME. Thanks for reaching out about this.

Best,

Rachel Childers, Ph.D.

Professional Practice Associate Professor & Director of Undergraduate Education

Department of Biomedical Engineering

Fontana Labs 4100B, 140 W 19th Ave., Columbus, Ohio 43210

Childers.73@osu.edu | 614.247.6681

(She/Her) | Student Hours Link

THE OHIO STATE UNIVERSITY

From: Dobritsa, Anna <dobritsa.1@osu.edu>
Sent: Friday, December 12, 2025 1:41 PM
To: Ghadiali, Samir <ghadiali.1@osu.edu>; Childers, Rachel <childers.73@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Concurrence request for MolGen 4810

Dear Prof. Ghadiali and Prof. Childers,

The Department of Molecular Genetics is seeking concurrence from Biomedical Engineering on the new course MG4810, *Advances in Genetic Biotechnology*, which we propose as one of the capstone/core courses in the new Biotech Science major and minor programs and as a possible elective for students majoring in Molecular Genetics, Biology, and other Life Sciences disciplines.
The syllabus is attached. Please let me know if you have any questions.

If possible, I would appreciate your response within two weeks.

Thank you,

Anna Dobritsa
Vice-chair for education
Dept. of Molecular Genetics

****

Anna Dobritsa
Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210
(614) 688-2197

Outlook

RE: Concurrence request for MG4810

From Freudenstein, John <freudenstein.1@osu.edu>
Date Mon 1/5/2026 10:05 AM
To Dobritsa, Anna <dobritsa.1@osu.edu>
Cc Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>

Dear Anna:

Sorry for the delay – EEOB is happy to give concurrence on MG 4810.

Best wishes,

John

From: Dobritsa, Anna <dobritsa.1@osu.edu>
Sent: Monday, January 5, 2026 9:59 AM
To: Freudenstein, John <freudenstein.1@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Re: Concurrence request for MG4810

Dear John,

A gentle reminder about the concurrence request for the MolGen4810 Biotechnology course.

Thanks,
Anna

****

Anna Dobritsa
Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210
(614) 688-2197

From: Dobritsa, Anna
Sent: Friday, December 12, 2025 1:32 PM
To: Freudenstein, John <freudenstein.1@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Concurrence request for MG4810

Dear John,

Molecular Genetics is seeking concurrence from EEOB on the new course MG4810, *Advances in Genetic Biotechnology*, which we propose as one of the capstone/core courses in the new Biotech Science major and minor programs and as a possible elective for students majoring in Molecular Genetics, Biology, and other Life Sciences disciplines. The syllabus is attached. Please let me know if you have any questions.

Thank you,

Anna Dobritsa
Vice-chair for education
Dept. of Molecular Genetics

****

Anna Dobritsa
Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210
(614) 688-2197

Outlook

RE: Concurrence request for MG4810

From Ruiz, Natividad <ruiz.82@osu.edu>
Date Mon 1/5/2026 10:34 AM
To Dobritsa, Anna <dobritsa.1@osu.edu>
Cc Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>

Dear Anna,

I apologize for the delayed response. I was traveling out of the country and didn't have a chance to discuss it with others in the department until now.

Micro gives concurrence. Good luck with the approval process.

Happy New Year!

Natacha

Natividad Ruiz, PhD
Professor
Vice Chair for Teaching & Undergraduate Affairs
Department of Microbiology
The Ohio State University

From: Dobritsa, Anna <dobritsa.1@osu.edu>
Sent: Monday, January 5, 2026 9:57 AM
To: Ruiz, Natividad <ruiz.82@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Re: Concurrence request for MG4810

Dear Natacha,

A gentle reminder about the concurrence request for the MolGen4810 Biotechnology course.

Thanks,
Anna

****

Anna Dobritsa
Associate Professor, Department of Molecular Genetics
and Center for Applied Plant Sciences
The Ohio State University
Aronoff Laboratory, Rm. 570
318 W. 12th Ave, Columbus, OH 43210
(614) 688-2197

From: Dobritsa, Anna
Sent: Friday, December 12, 2025 1:28 PM
To: Ruiz, Natividad <ruiz.82@osu.edu>
Cc: Cole, Susan <cole.354@osu.edu>; McWhorter, Michelle <mcwhorter.22@osu.edu>; Hollick, Jay <hollick.3@osu.edu>
Subject: Concurrence request for MG4810

Dear Natacha,

Molecular Genetics is seeking concurrence on the new course MG4810, *Advances in Genetic Biotechnology*, which we propose as one of the capstone/core courses in the new Biotech Science major and minor programs and as a possible elective for students majoring in Molecular Genetics, Biology, and other Life Sciences disciplines.
The syllabus is attached.

Thank you,

Anna

****

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