

PROPOSAL FOR A CERTIFICATE PROGRAM

Date: 11/3/2025

School/College/Unit: Franklin College of Arts and Sciences

Department/Division: Microbiology

CIP:

Certificate Title: Industrial Bioscience Skills

Effective Term: Fall 2026

Which campus(es) will offer this certificate? Athens

Level (Undergraduate, Graduate, or Post-Baccalaureate): Undergraduate

Program Abstract:

The proposed Undergraduate Certificate in Industrial Bioscience Skills is a program designed to equip students with the advanced technical competencies, communication expertise, and professional readiness essential for success in the rapidly evolving bioscience industry. Leveraging existing courses, expert instructional personnel, and state-of-the-art research laboratories, the curriculum offers a rigorous and immersive educational experience.

Participants will gain hands-on proficiency in cutting-edge laboratory techniques, data analysis, and experimental design, while also developing strong written and oral communication skills tailored to scientific and professional contexts. The program emphasizes real-world applications and career preparation through integrated coursework and experiential learning opportunities.

Upon successful completion, students will possess a robust suite of skillsets highly sought after by employers in biotechnology and related fields, positioning them for competitive entry into the workforce or advanced academic pursuits.

1. Purpose and Educational Objectives

State the purpose and educational objectives of the program. How does this program complement the mission of the institution?

The purpose of this proposed program is to prepare life science undergraduates for successful careers in the bioscience industry by providing advanced laboratory training, strong communication and data analysis skills, and professional development through a structured 12-15 credit hour curriculum utilizing existing courses. Students who choose to participate in this certificate and enter professional and graduate programs would also benefit from the multidisciplinary skillsets offered.

In alignment with the Experiential Learning requirement for UGA students, this program has a heavy emphasis on advanced laboratory skills through hands-on learning in current biotechnology techniques, experimental design, and data analysis using available research labs and facilities. Additionally, students who participate in these inquiry-driven lab experiences will not only gain valuable hard skills at the bench but also soft skills in working collaboratively with peers.

One of the university's Institutional Competencies is communication which conveys UGA's recognition that successful graduates articulate and exchange ideas effectively. The certificate requires students to develop their scientific communication through courses that emphasize written reports, oral presentations, and professional interactions.

Critical thinking and analytical skills are reinforced not just through the lab courses but also computational courses such as bioinformatics, programming basics, and foundations of artificial intelligence. This two-fold approach to enhance evaluative skills deepens students' knowledge base and confidence to approach real-world problems.

Career readiness is emphasized to prepare students for the workforce by introducing students to potential bioscience jobs, effective job application materials such as resumes, and the value of networking. This ensures graduates will possess a competitive skillset as well as effective application materials, enabling them to pursue employment or further academic study in industrial bioscience and related fields.

2. Need for the Program

Explain why this program is necessary.

The bioscience industry is expanding, driven by advances in genomics, personalized medicine, agricultural biotech, and bio-manufacturing. Employers in this sector are increasingly seeking job-ready graduates with practical lab experience, and strong communication and teamwork skills. This certificate directly addresses those needs, producing graduates who are immediately employable and competitive in a high-demand job market. The proposed certificate is a strategic response to the demand for skilled biotechnology professionals. It ensures that students are not only academically prepared but also professionally equipped to thrive in an evolving industry.

According to the US Bureau of Labor Statistics, job trends in bioscience-related technology and industry jobs that include biological technicians are estimated at 7% growth over the next 10 years.¹ In light of this growth in bioscience industry jobs, a survey was collected from twelve (12) local bioscience and technology company directors and supervisors. They indicated that lab experience with skillsets that included PCR and cell culturing technique were important qualities of a desirable employee. Skills such as accurate data analysis, recording accurate documents, maintaining quality control, and competency

¹ <https://www.bls.gov/ooh/life-physical-and-social-science/biological-technicians.htm>

experimental design received an average score of 4 out of a 5 point scale, indicating a very desirable characteristic. Soft skills highly rated were written and oral communication, critical thinking, and time management. The highest skill rated in this survey was collaboration.

Concurrently, according to the Georgia Department of Education, the number of STEAM and STEM high schools are increasing. There are seven (7) established STEM schools with ten (10) advancing to certification and fifteen (15) more that are beginning the process of certification.² This trend of more students accessing STEAM and STEM schools will in turn provide more interest in certification programs such as the proposed Undergraduate Certificate in Industrial Biosciences Skills.

While traditional life science major programs provide a strong foundation in biological theory and scientific principles, this proposed certificate program adds layers of structured, hands-on training and career-focused preparation that today's bioscience employers demand. This certificate program is uniquely positioned to prepare students for this field by offering applied skill development: students gain real-world lab experience with advanced techniques not always covered in standard coursework. Emphasis on industry-relevant tools and protocols prepares students for immediate entry into bioscience roles in private and public sectors. Unlike many science programs, this certificate also integrates scientific writing, presentation skills, and teamwork, ensuring graduates can communicate effectively in professional settings. Finally, the certificate requires career development training which helps students explore and define career paths in biotechnology, regulatory affairs, lab management, and more.

The Undergraduate Certificate in Industry Bioscience Skills is designed to complement any life science major without extending time to graduation. It utilizes existing UGA courses and labs, many which overlap life science major and minor programs. In essence, this certificate transforms a traditional life science education into a career-launching platform, equipping students with the practical skills and credentials to enter the biosciences technology workforce.

- a. Semester/Year of Program Initiation:** Fall 2026.
- b. Semester/Year of Full Implementation of Program:** Fall 2026
- c. Semester/Year First Certificates will be awarded:** Spring 2027
- d. Annual Number of Graduates expected (once the program is established):** 97
- e. Projected Future Trends for number of students enrolled in the program:**

As this certificate would be of interest to life science students, if 5% of current Biology (B.S.) and Microbiology(B.S.) students apply for the certificate program, the estimated number of enrollment would be 97 students, based on the total enrollment from Spring 2024 being 1936.

If this certificate program shows growth over the next five years where 8-10% of Biology (B.S.) and Microbiology(B.S) students apply for the certificate program, the estimated number of enrollment would increase to approximately 155-194 students.

3. Student Demand

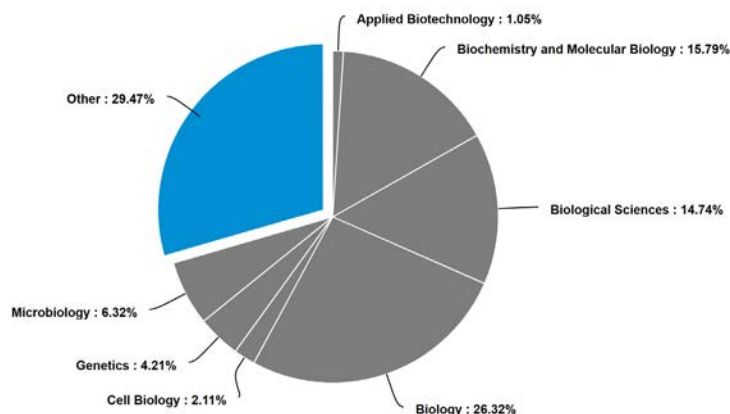
- a. Provide documentation of evidence of student demand for this program, including a student survey.**

² <https://lor2.gadoe.org/gadoe/file/299fb8ec-bc81-464d-a416977da9bdc34f/1/STE%28A%29M%20Tiered%20School%20List.pdf>

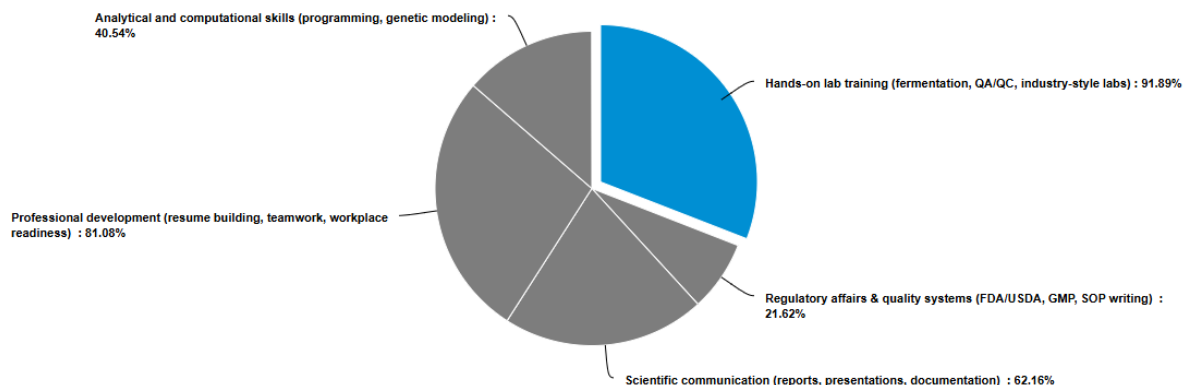
In light of the changing landscape with federal fellowships and internships, more students with bioscience training will be looking for jobs in industry. Students are looking for programs that provides practical, industry-relevant skills (e.g., lab techniques and data analysis) which complement a biology degree that provide a more competitive edge for entry-level jobs as compared to peers. Additionally, many biology majors are unsure how their academic knowledge translates into careers. Thus, a certificate program becomes beneficial as it bridges this gap by showing clear links between classroom learning and bioscience careers.

The following survey questions were posed to students from a variety of majors (see pie chart below) enrolled in MIBO 3500, BIOL 1107, and BIOL 1108 courses gauging student insight on the desirability of a such as certificate program as well as the type of skills they are seeking. Of the 94 undergraduate majors who responded to the survey, 77.6% indicated they would consider pursuing the proposed Undergraduate Certificate in Industrial Bioscience Skills.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I would consider pursuing the Certificate in Industrial Bioscience Skill if it were offered	0 0.00%	2 2.13%	19 20.21%	45 47.87%	28 29.79%
A certificate like this would make me more competitive for jobs and support my career goals.	0 0.00%	0 0.00%	8 8.51%	50 53.19%	36 38.30%
The skills taught in this certificate (hands-on labs, scientific communication, analytical skills, professional development) would be valuable to me.	0 0.00%	0 0.00%	5 5.32%	41 43.62%	48 51.06%



Additionally, students were asked to select which skills they would be most interested in strengthening if the proposed certificate was offered. An overwhelming 91% indicated hands-on lab training was most attractive with 81% indicating professional development as the next most desirable.



b. Provide evidence that demand will be sufficient to sustain reasonable enrollment.

According to the UGA Career Center, 35% of Biology majors go straight into full-time positions, such as laboratory technicians, upon graduation.³ As mentioned earlier, if five percent (5%) of current Biology and Microbiology students apply for the certificate program, the estimated number of enrollments would be 97 students (total enrollment from Spring 2024 being 1936). This estimate provides evidence for sufficient enrollment to maintain this certificate program. If enrollment in the certificate exceeds expectations, the increase in student enrollment can be mediated by restricting applications to only those who have finished BIOL 1107/L, BIOL 1108/L, CHEM 1211/L and CHEM 1212/L courses with a “C+” (2.3) or better and/or adding the course MIBO 3500 and MIBO 3500L as a prerequisite with a “C” (2.0) or better.

4. Program of Study

Provide a detailed program of study for the certificate program.

Required Course (3 hours):

- MIBO 3510L, Introduction to Microbiology Laboratory II (3 hours) (Prerequisites: MIBO 3500, MIBO 3500L)

Lab Skills Courses (3-4 hours)

Choose one of the following:

- BCMB 4030L, Bioprocess Technology (4 hours)
- BIOL 3110L, Basic Skills in the Laboratory (4 hours)
- BTEC(BCMB)(PBIO) 4000L, Methods in Biotechnology (4 hours)
- CBIO 3410L, Laboratory in Cellular and Developmental Biology (4 hours)

³ <https://career.uga.edu/wcidwami/biology>

- GENE 3210L, Experimental Genetics (3 hours)
- GENE 4210L, Experimental Molecular Genetics Laboratory (3 hours)
- MIBO 4600L/6600L, Experimental Microbiology Laboratory (4 hours)
- BCMB 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)
- BIOL 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)
- CBIO 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)
- GENE 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)
- MIBO 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)
- PBIO 4960R, Faculty-Mentored Undergraduate Research I (3-4 hours)

Data Analysis Courses (3-4 hours)

Choose one of the following:

- ARTI 2550, Thinking Machines: Foundations of Artificial Intelligence (3 hours)
- CSCI 1300-1300L, Introduction to Programming with Python (4 hours)
- GENE 4220L, Laboratory in Genetic Modeling (3 hours)
- INFO 2000, Experiential Data Science Specialization – Foundations (3 hours)
- MIBO (POPH)(IDIS) 4450/6450-4450L/6450L, Microbial Genetics and Genomics (4 hours)

Scientific Communication Courses (2-3 hours)

Choose one of the following:

- BIOL 4300W/6300W, Scientific Research Writing (3 hours)
- BTEC 3000, Ethics and Communication in Biotechnology (2 hours)
- COMM 4350/6350, Scientific Communication (3 hours)
- ENGL 3860W, Science Writing for General Audiences (3 hours)

Professional Development Course (1 hour)

Choose one of the following:

- BIOL 3050, Professional Development for Biology Careers (1 hour)
- CBIO(NEUR)(PSYC) 4950, Career Development in Neuroscience (1 hour)
- FDST 1001, Careers in Food Science (1 hour)

Total = minimum of 12 hours

b. Identify any new courses created for this program

No new courses are needed for this certificate program.

5. Model Program and Accreditation

Across the U.S., several universities offer specialized programs tailored to diverse career paths in biomanufacturing and biosciences. **South Dakota State University (SDSU)** provides a *Bioprocessing*

Sciences Certificate requiring one foundational course and lab, plus two electives from a broad selection of 33 options. Sample electives include *Food Microbiology*, *Engineering Properties of Biological Materials*, and *Microbial Processes in Engineering and Natural Sciences*. **North Carolina State University (NC State)** offers both a *Minor* and a *Certificate in Biomanufacturing*. The minor includes four core courses such as *Introduction to Drug Development and Careers in Biomanufacturing* and *Fermentation of Recombinant Microorganisms*, with electives like *Industrial Microbiology and Bioprocessing* and *Animal Cell Culture Engineering*. The certificate program is more streamlined, requiring fewer credits but still offering electives like *Molecular Biology for Biomanufacturing* and *Microbial Biotechnology*. **University of Massachusetts (UMass)** offers a *Biotechnology Certificate* through its Department of Microbiology, emphasizing hands-on experience via a required internship or independent study. Students choose from introductory courses such as *Cellular and Molecular Biology*, lab courses like *Laboratory in Biotechnology*, and electives including *Microbial Genetics* and *Phyto/Bioremediation*. Each program reflects a distinct approach; whether emphasizing lab work, industry alignment, or academic breadth, these programs cater to students aiming for careers in biotechnology and related fields.

However, only one of these programs includes a professional development requirement and none include scientific communication courses. Additionally, while all of these programs offer intense wet lab training, few of these programs include specific data analysis courses that include any topics that include generative AI components or computer programming.

No accreditation program is offered for multidisciplinary biosciences programs.

6. Student Learning Outcomes

Describe the proposed learning outcomes for the certificate program.

LO1. Lab skills proficiency – students will be able to demonstrate mastery in advanced laboratory techniques, including molecular biology, cell culture, and analytical instrumentation.

LO2. Scientific evaluation and application – students will be able to analyze and interpret experimental data using appropriate scientific methods and tools along with critically evaluating scientific literature to draw valid conclusions. Students will also integrate and apply interdisciplinary knowledge from biology, chemistry, and technology to solve real-world problems.

LO3. Scientific communication – students will be able to communicate scientific information effectively and accurately through written reports, oral presentations, and digital media tailored to both technical and non-technical audiences.

LO4. Career readiness – students will identify ways to investigate potential career outcomes while developing career-readiness artifacts such as online portfolios, resumes, or CVs.

7. Assessment and Admissions

Describe how the learning outcomes for the program will be assessed.

Learning Outcome	Program Assessment
LO1. Lab skills proficiency	<p>Evaluation of lab skill proficiency by practical exams or guided projects: MIBO 3510L, BIOL 31110L</p> <p>Lab practical exams, evaluation of lab notebooks, and lab reports scores: MIBO 3510L</p> <p>Scores from lab assignments and lab activities in electives lab courses that assess bench skills: BCMB 4030H/4030L, BIOL 3110L, BTEC 4000L, CBIO 3410L, GENE 4210L, GENE 3210L, MIBO 4600L</p>
LO2. Scientific evaluation and application	<p>Evaluation of data analysis in final research paper: BCMB 4960R, BIOL 4960R, CBIO 4960R, GENE 4960R, MIBO 4960R, PBIO 4960R</p> <p>Assignments and project scores in data analysis courses: BCMB 4030H/4030L, BIOL 3110L, BTEC 4000L, CBIO 3410L, GENE 4210L, GENE 3210L, MIBO 4600L</p> <p>Score from data interpretation in final project/report: MIBO3510L,MIBO 4600L</p>
LO3. Scientific communication	<p>Scores from assessments on final papers: BIOL 4300W, ENGL 3860W</p> <p>Oral presentation assessments: BTEC 3000, COMM 4350/6350</p> <p>Evaluation of writing proficiency in final research paper: BCMB 4960R, BIOL 4960R, CBIO 4960R, GENE 4960R, MIBO 4960R, PBIO 4960R</p>

LO4. Career readiness	<p>Pre- and post-course anonymous student survey about self-perceived career preparation: BIOL 3050, CBIO(NEUR)(PSYC) 4950, FDST 1001</p> <p>Assessment of professional artifacts: BIOL 3050, CBIO(NEUR)(PSYC) 4950, FDST 1001</p> <p>Anonymous survey of recently graduated alumni about career preparation</p>
-----------------------	--

Describe the process and criteria for how students will be admitted to and retained in the program.

Students can apply online to the Undergraduate Certificate in Industrial Biosciences Skills through the Microbiology department's website. Students with an overall 3.0 GPA or higher who have completed each of the courses listed below with a grade of "C" (2.0) or better will be admitted.

BIOL 1107, Principles of Biology I (3 hours)
 AND BIOL 1107L, Principles of Biology I Laboratory (1 hour)
 BIOL 1108, Principles of Biology II (3 hours)
 AND BIOL 1108L, Principles of Biology II Laboratory (1 hour)
 CHEM 1211-1211D, General Chemistry I (3 hours)
 AND CHEM 1211L, General Chemistry Laboratory I (1 hour)
 CHEM 1212-1212D, General Chemistry II (3 hours)
 AND CHEM 1212L, General Chemistry Laboratory II (1 hour)

Departmental efforts to retain students in the program will be done by regular communication through email and social media, as well as hosting events for career networking and community building.



**Franklin College of
Arts and Sciences**
UNIVERSITY OF GEORGIA

CURRICULUM REQUEST FORM

Please complete a separate request for each curriculum item being submitted. Each request should include either a WORD or PDF file of the curriculum item being reviewed. This form along with the file should be emailed to Kris Petti at pettik@uga.edu.

Date: 10/28/2025

Department/Institute/Program: Department of Microbiology

Contact Person: Jennifer Walker

Email Address: jrswalk@uga.edu

Curriculum Item Request: Certificate in Industrial Bioscience Skills proposal

Please provide a justification for this request: While traditional life science majors provide a strong foundation in biological theory and scientific principles, this program adds structured, hands-on training and career-focused preparation that today's bioscience employers expect. This certificate program is uniquely positioned to equipping students by offering unique skill development; students gain real-world lab experience with advanced techniques not always covered in standard coursework. Emphasis on industry-relevant tools and protocols prepares students for immediate entry into bioscience roles in private and public sectors. Unlike many science programs, this certificate also integrates scientific writing, presentation skills, and teamwork, ensuring graduates can communicate effectively in professional settings. Finally, the certificate requiring a professional and career development course helps students explore and define career paths in biotechnology, regulatory affairs, lab management, and more.

As Department Head, you are affirming that the department procedures have been followed for approval with your unit.



RE: New certificate proposal question

From Adam Barb <abarb@uga.edu>

Date Thu 10/2/2025 8:03 AM

To Jennifer R Walker <jrswalk@uga.edu>

Definitely. There are currently three sections per year being taught, two by us, one by BCHE. These have not been filling.

The curriculum looks good! Once we get course numbers for our Prof Dev courses, I'll pass them along for potential inclusion in your certificate.

ADaM

From: Jennifer R Walker <jrswalk@uga.edu>

Sent: Thursday, October 2, 2025 8:00 AM

To: Adam Barb <abarb@uga.edu>

Subject: New certificate proposal question

Hello ADaM,

Now it's my turn to inquire about a little collaboration between Biochemistry and Microbiology for a new certificate program I'm developing for the Microbiology Department. The proposal for the Certificate of Industrial Bioscience Skills has distinct areas of lab skills, scientific communication, data analysis, and professional development. The goal of this certificate is to prepare students with both hard and soft skills for biotechnology careers but would also be applicable to professional health careers.

In efforts to be as transparent as possible and act in a collaborative manner, I wanted to reach out and ask for your support as department head to have the BCMB 4030H/4030L: Bioprocess technology course potentially be included. This course would be applicable to the certificate as it would be an option to fulfill the lab skills aspect. Attached is the course listing of the certificate for your review.

I am happy to discuss any questions you may have and look forward to your response.

Sincerely,
Jennifer Walker

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

706-542-0947 | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



**UNIVERSITY OF
GEORGIA**



Re: New certificate proposal question

From Kristen Miller - Chair <biochair@uga.edu>

Date Sun 10/5/2025 10:26 AM

To Jennifer R Walker <jrswalk@uga.edu>

Hi, Jennifer. I support this proposal and use of the BIOL courses listed.

Yes, I would reach out to Jason and Billy (both 3110L now) to confirm their support. We just started adding a second section of this course in the summer semester, so that will open up more seats for interested students.

Please let me now if you need something on letterhead, and good luck!

Kris

Director, Division of Biological Sciences
University of Georgia
Tel: 706 542-1693
biochair@uga.edu

UGA Creative Teaching Award Recipient
Past President, ABLE (Association of Biology Laboratory Education)

From: Jennifer R Walker <jrswalk@uga.edu>

Sent: Thursday, October 2, 2025 8:00 AM

To: Kristen Miller - Chair <biochair@uga.edu>

Subject: New certificate proposal question

Hello Kris,

I hope you are enjoying this near mid-point of the semester. I'm reaching out to you to request formal support to include Biology courses in my proposal for the Certificate of Industrial Bioscience Skills that encompasses lab skills, scientific communication, data analysis, and professional development.

BIOL 3110L Basic Skills in the Laboratory course could potentially be included as an option for lab skills. Additionally, BIOL 4300W Scientific Research Writing would be included for the scientific communication area and BIOL 3050 Professional Development for Biology Careers would be an excellent option for the professional development aspect.

Attached is the course listing of the certificate for your review. I have already reached out to Holly and Katie to confirm their support for including their course in this certificate program. I'm happy to talk to Jason about including BIOL 3110L as well. Let me know if you have any questions; I look forward to your response.

Sincerely,
Jennifer

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



UNIVERSITY OF
GEORGIA



RE: New certificate and Applied Biotech program

From Dean Kopsell <Dean.Kopsell@uga.edu>

Date Mon 9/29/2025 2:47 PM

To Jennifer R Walker <jrswalk@uga.edu>

Cc Michael J Adang <adang@uga.edu>; Kelly Carruthers <Kelly.Carruthers@uga.edu>

Jennifer,

I have no issue with the certificate program you are proposing. I agree with Mike and Kelly that it would potentially bring more students to BTEC major.

Thank you for reaching out and thank you for creating a nice complementary program for our major.

Let me know if there is anything else you need from me or CAES.

Best,
Dean

Dean A. Kopsell, *Professor & Associate Dean*
College of Agricultural and Environmental Sciences
Office of Academic & Faculty Affairs

102 Conner Hall
Athens, GA 30602

p: [706-542-1611](tel:706-542-1611)
e: Dean.Kopsell@uga.edu
w: caes.uga.edu



**UNIVERSITY OF
GEORGIA**

From: Jennifer R Walker <jrswalk@uga.edu>

Sent: Monday, September 29, 2025 1:50 PM

To: Dean Kopsell <Dean.Kopsell@uga.edu>

Cc: Michael J Adang <adang@uga.edu>; Kelly Carruthers <Kelly.Carruthers@uga.edu>

Subject: New certificate and Applied Biotech program

Good morning Dr. Kopsell,

I'm reaching out to you to relay information about a certificate program I'm developing for the Microbiology Department which is of interest to CAES' Applied Biotechnology degree program in Entomology. I've been in correspondence with Dr. Mike Adang and Dr. Kelly Carruthers

about this certificate in Industrial Bioscience Skills as some of the BTEC courses would be applicable to the certificate and may move some students to consider the Applied Biotechnology major or minor. The differences we've discussed between the certificate and the Applied Biotechnology program are the distinct areas of lab skills, scientific communication, data analysis, and professional development courses.

Both Dr. Adang and Dr. Carruthers have been in agreement that this certificate would not detract from their program and, in fact, potentially direct more students to the BTEC program. In efforts to be as transparent as possible and act in a collaborative manner, I wanted to ensure that all involved parties were aware of this new proposal and that it will be submitted by the end of the month.

Attached is the course listing of the certificate for your review. Please let me know if you have any questions.

Sincerely,
Jennifer Walker

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

706-542-0947 | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>





Re: New certificate proposal and review

From Edward T Kipreos <ekipreos@uga.edu>

Date Mon 10/13/2025 6:30 PM

To Jennifer R Walker <jrswalk@uga.edu>

Cc Jacek Gaertig <jgaertig@uga.edu>; Oshri Avraham <Oshri.Avraham@uga.edu>; Haini N Cai <hcai@uga.edu>; Cordula Schulz <cschulz@uga.edu>; Cell. Biol._head <cbiohead@uga.edu>

 1 attachment (16 KB)

Certificate in Industrial Bioscience Skills.docx;

Hi Jennifer,

The instructors of CBIO3410L are happy to have the course listed in your certificate program.

Best regards,
Edward

Edward T. Kipreos
Department of Cellular Biology
University of Georgia
Cedar St Bldg. C, room 430J
136 Cedar Street
Athens, GA 30602-2607
phone: (706) 542-3862
FAX: (706) 542-4271

On Oct 13, 2025, at 3:40 PM, Jennifer R Walker <jrswalk@uga.edu> wrote:

Hello Dr. Kipreos,
I hope you are enjoying the mid-point of the semester. I'm working on a certificate program for the Microbiology Department titled the Certificate of Industrial Bioscience Skills that encompasses lab skills, scientific communication, data analysis, and professional development. I'm reaching out to request formal support to include your CBIO 3410L lab course in my proposal. This would be a certificate program some life science majors may be interested in fulfilling and your course would be very applicable for lab skills.

Attached is the program course listing for your review. I have already reached out to your department head to let him know about this certificate proposal. Let me know your thoughts and questions; specifically, let me know if you would be willing to have your course listed for this certificate.

Sincerely,
Jennifer Walker

Jennifer R. Walker, PhD
Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



**UNIVERSITY OF
GEORGIA**



Re: questions about your COMM 4350

From Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>

Date Fri 9/26/2025 10:47 AM

To Jennifer R Walker <jrswalk@uga.edu>

Hi Jennifer,

Our executive committee has approved this request and we support our course being included in the certificate.

Let me know if there is any additional information I can provide.

Best,
Chelsea

Chelsea Ratcliff, PhD

Associate Professor & Undergraduate Coordinator

Department of Communication Studies

University of Georgia

From: Jennifer R Walker <jrswalk@uga.edu>

Date: Wednesday, September 24, 2025 at 9:58 AM

To: Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>

Subject: Re: questions about your COMM 4350

Hi Chelsea,

My estimate is that we would have up to 150 students total enrolled in the certificate. I would expect that you would have preference for your majors to take this course. I have a course where I reserve 5-10 seats for my own majors.

Additionally, students enrolled in the certificate would have two other options of courses to choose from to fulfill the scientific communications portion. So the hope would be that your course would not be overrun with life science students. Let me know if you have more questions.

Best,
Jennifer

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



UNIVERSITY OF
GEORGIA

From: Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>

Sent: Tuesday, September 23, 2025 1:24 PM

To: Jennifer R Walker <jrswalk@uga.edu>

Subject: Re: questions about your COMM 4350

Hi Jennifer,

I've sent her a message. Let's see what she says. In the meantime, do you have any sense of how many students this might produce per semester? (We teach it once a year, in either spring or fall.) I think one factor would be whether we'd have enough seats to ensure our own majors can take it.

Thanks,
Chelsea

From: Jennifer R Walker <jrswalk@uga.edu>

Date: Tuesday, September 23, 2025 at 11:04 AM

To: Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>

Subject: Re: questions about your COMM 4350

Thank you for your quick reply. I think your course would fit well within the Scientific Communication area of the certificate.

I'm happy to reach out to your department chair to ask for support by including your course.

Best,
Jennifer

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

706-542-0947 | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



UNIVERSITY OF
GEORGIA

From: Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>

Sent: Monday, September 22, 2025 6:59 PM

To: Jennifer R Walker <jrswalk@uga.edu>

Subject: Re: questions about your COMM 4350

Good evening Jennifer,

This class is perfectly suitable for life science majors and I often have at least a few per semester. There is no pre-req.

However, the class is not focused on writing. The three big assignments are delivered orally (2 scientific talks and a mock media interview). The only writing they do is developing text for their presentation slides and writing a very short lay summary of a study.

Please let me know if the class would still meet the needs of your certificate and I'll ask my department chair if it would be possible.

Best,
Chelsea

Chelsea Ratcliff, PhD

Associate Professor & Undergraduate Coordinator
Department of Communication Studies
University of Georgia

From: Jennifer R Walker <jrswalk@uga.edu>
Date: Monday, September 22, 2025 at 4:22 PM
To: Chelsea Ratcliff <Chelsea.Ratcliff@uga.edu>
Subject: questions about your COMM 4350

Hello Dr. Ratcliff,

I am reaching out with interest in your COMM 4350 course as I am working to propose a new certificate in the Microbiology Department titled "Applied Life Science Industry Skills". There are three main elements to the certificate draft with scientific communication being one. Your course was discovered as an option for life science majors to consider fulfilling this aspect of the certificate.

My question for you is if there are any prerequisites for your course and who are the typical students taking your course. Would a life science student be able to perform well within this class? How much writing vs oral communication is included? And if so, would you be willing to have your course included?

I'm providing the draft of this program proposal with your course listed so you can get an idea of the certificate.

I look forward to hearing from you.

Best,
Jennifer Walker

Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator
670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602
[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu
<https://mib.uga.edu/undergraduate>



UNIVERSITY OF
GEORGIA



UNIVERSITY OF
GEORGIA

254 Park Hall
200 Baldwin St.
Athens, Georgia 30602
TEL 706-542-1261 | FAX 706-542-2181
www.english.uga.edu

Franklin College of Arts and Sciences
English Department

October 2, 2025

To Whom It May Concern:

As the Head of the Department of English, I am writing to express my approval of including ENGL 3860W "Science Writing for General Audience" in the proposed Undergraduate Certificate in Applied Life Science Industry Skills Certificate.

Please let me know if you have any questions.

Sincerely,

Roland Végső
Professor and Department Head
Department of English



Re: Request for course addition to new certificate

From Faith Critzer <fcritzer@uga.edu>
Date Mon 11/3/2025 8:00 AM
To Jennifer R Walker <jrswalk@uga.edu>
Cc Laurel L Dunn <Laurel.Dunn@uga.edu>

Hello Jennifer,

I've checked with the instructor, Dr. Laurel Dunn, and she is in favor of adding FDST 1001 to the Certificate of Industrial Bioscience Skills. Thanks for reaching out and let us know if you need anything else from us.

Best regards,
Faith

Faith Critzer, Ph.D.

Food Science & Technology Dept., CAES | *Professor and Interim Department Head*

100 Cedar St. | Rm 211A | Athens, GA 30602
[706-542-1088](tel:706-542-1088) | fcritzer@uga.edu

website: foodscience.caes.uga.edu



UNIVERSITY OF
GEORGIA



From: Jennifer R Walker <jrswalk@uga.edu>
Date: Wednesday, October 29, 2025 at 4:52 PM
To: Faith Critzer <fcritzer@uga.edu>
Subject: Request for course addition to new certificate

Hello Dr. Critzer,

I hope you are doing well. I'm working on a certificate program for the Microbiology Department titled the Certificate of Industrial Bioscience Skills that encompasses lab skills, scientific communication, data analysis, and professional development. This would be a certificate program some life science majors may be interested in fulfilling and the course FDST 1001 aligns well with the Professional Development requirement of the certificate.

Attached is the program course listing for your review. Let me know your thoughts and questions about including this course; specifically, let me know if you would be willing to have the course listed for this certificate. I look forward to your response.

Sincerely,
Jennifer Walker

Jennifer R. Walker, PhD
Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



UNIVERSITY OF
GEORGIA



Re: New certificate follow up

From Michael L Arnold <mlarnold@uga.edu>

Date Mon 10/27/2025 9:48 AM

To Jennifer R Walker <jrswalk@uga.edu>

Fine with me, Jennifer, if all the instructors understand (as do you) that Genetics majors/minors will be given first dibs. Best, Mike

--

Mike Arnold
Distinguished Research Professor and Head
Department of Genetics
University of Georgia
Athens, GA 30602
Email: mlarnold@uga.edu

From: Jennifer R Walker <jrswalk@uga.edu>

Date: Monday, October 27, 2025 at 9:33 AM

To: mike <mlarnold@uga.edu>

Subject: New certificate follow up

Good morning, Mike,

I am following up on my email to you from the beginning of the month about the new certificate program I'm developing, Industrial Bioscience Skills. You indicated some concern about seat availability for GENE 3210L Experimental Molecular Genetics Laboratory and GENE 4210L Experimental Genetics courses that potentially could be included as options for the lab skills area. Additionally, GENE 4220L Laboratory in Genetic Modeling could be included in the data analysis area as an option.

I reached out to Chelsea VanDrisse about her GENE 3210L and she indicated that a handful of non-Genetic majors usually enroll in the lab so she was in full support of including her course.

Blake Billmyre was also contacted about his GENE 4220L and he confirmed with Rodney that he could reserve seats for Genetics majors while allowing the course to be listed in the certificate program.

Last, I reached out to Jonathan Eggenschwiler to ask about his GENE 4210L and he too provided support for inclusion of his lab with the warning that this lab course would not be taught this Spring 2026.

In light of this supportive response from individual instructors and with the confirmation that Genetics majors would be given priority, would you be in support of including these courses for my certificate? I have to provide evidence of support from each department head for any courses included in the certificate proposal. Your reply email would be sufficient.

Best,
Jennifer


Jennifer R. Walker, PhD

Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

706-542-0947 | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>

 Image removed by sender. University of Georgia



Re: New certificate proposal question

From Kyle J Johnsen <kjohnsen@uga.edu>

Date Wed 11/5/2025 2:36 PM

To Jennifer R Walker <jrswalk@uga.edu>

Hi Jennifer. Yes, you have my support. INFO2000 is a great course for establishing foundational, applied, data science and AI skills. It is very hands-on, and it has always been the intent of the GII to offer core courses that serve the whole University, so thank you for considering it.

Best regards,

Kyle

From: Jennifer R Walker <jrswalk@uga.edu>

Sent: Tuesday, November 4, 2025 8:00 AM

To: Kyle J Johnsen <kjohnsen@uga.edu>

Subject: New certificate proposal question

Hello Dr. Johnsen,

I hope you are doing well today. I'm reaching out to you to relay information about a certificate program I'm developing for the Microbiology Department which is of interest to the Informatics Institutes as well. The proposal for the Certificate of Industrial Bioscience Skills has distinct areas of lab skills, scientific communication, data analysis, and professional development courses. The goal of this certificate is to prepare students with both hard and soft skills for biotechnology careers but would also be applicable to professional health careers.

In efforts to be as transparent as possible and act in a collaborative manner, I wanted to reach out and ask for your support to have the INFO 2000 Experiential Data Science Specialization – Foundations course potentially be included. This course would be applicable to the certificate as it would be an option to fulfill the data analysis aspect. Attached is the course listing of the certificate for your review.

If there is someone else I should ask regarding the inclusion of INFO 2000, please let me know. I am happy to discuss any questions you may have and look forward to your response.

Sincerely,
Jennifer Walker

Jennifer R. Walker, PhD
Senior Lecturer, Undergraduate Coordinator

670B Cedar St. Bldg. C | Department of Microbiology | Athens, GA 30602

[706-542-0947](tel:706-542-0947) | jrswalk@uga.edu

<https://mib.uga.edu/undergraduate>



**UNIVERSITY OF
GEORGIA**