**Decorative banner that says Birmingham-Southern College with the BSC logo.
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BI 474- Directed Research in Cell and Molecular Biology

1 unit   
MTWTH 10:00-11:00, 12:00-3:00

SSC 238/211

Instructor: Dr. Sarah Beno

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Grading:  Letter grade (see grading scale)

**I. Course Description**

An advanced exploration of the practices and techniques of research in cell and molecular biology. Focuses on the execution and communication of scientific research. May be completed as the first of two required units of senior capstone research.

Prerequisites: BI 225 and at least junior standing.

***Aims***  Students will complete research looking for novel antibiotic metabolites in bacteria isolated from honey. Students will draft and revise a scientific paper.

**II. Format and Procedures**

We will meet in person as scheduled unless otherwise announced. We will spend a lot of time together in these six weeks. Expect most of our time to be spent in the lab and for extensive time writing and revising a scientific paper, as well.

**Communication**:

**What to expect from me**: I will regularly check and respond to emails. You can expect a response generally within 48 hours of your email. Weekend emails may take longer. Email is the best method to reach me, but you may also try my office phone. I invite all of you to meet with me outside of class, we can either schedule this separately or you may swing by my office- if my door is open, you might be able to catch me for a few minutes!

**What I expect from you**: Check your email! I send a lot of emails to my students, so it will be important that you are regularly looking for them. My most successful students communicate with me regularly- please let me know if you do not understand something, if you’d like to work through something together, or if you are facing outside challenges. We can usually work something out, but it will require you to be proactive.

**III. Technology Requirements**

For this course, you will need access to a computer and stable internet connection, as well as to the following:

We will use **Moodle** in this course. All paper drafts will be submitted via Moodle using Turn-It-In. Please let me know if you are having difficulty accessing the course! I will also keep grades up-to-date on Moodle.

This course (and most of your courses at BSC) will require the use of your **Student Outlook Email** account. All communication for this course should come through your BSC email account. I like to send updates via email, so please check regularly!

**Microsoft Office 365** is available for free download to all current faculty, staff, and students. This can be easily downloaded from the IT [Helpdesk](https://www.bsc.edu/campus/it/helpdesk.html) Webpage. You will need to sign in with your Birmingham-Southern User Name and Password to download and use this software.

It is expected all written assignments be completed with Microsoft Word since [Microsoft Office 365 has been provided](https://sites.google.com/view/bscmoodlehelpstu/office-365?authuser=0) to all members of the Birmingham-Southern community. **If you use another word processing application (for example, Pages on Macbook), you must convert your document into a PDF or Word document prior to it being uploaded to Moodle. *Otherwise, I cannot open your document!* Please convert photos to .pdf, as well!**

[IT Helpdesk](https://www.bsc.edu/campus/it/helpdesk.html)  offers telephone, email, and in-person support to all Birmingham-Southern students and employees. Please view the [Student Quick Guide](https://www.bsc.edu/campus/it/pdfs/StudentQuickGuide.pdf) for information on how to access BSC technology tools. Hours of operation are listed below.

Hours of Operation

Email: [helpdesk@bsc.edu](mailto:helpdesk@bsc.edu), Monday-Friday, 7:30 am – 4:00 pm

Phone: 205-226-3033

24/7 Hotline via Apogee: 1-877-478-8861

Web address: [www.bsc.edu/campus/it/helpdesk.html](http://www.bsc.edu/campus/it/helpdesk.html)

*Technology can be problematic: Internet connections can be slow or down; computers may malfunction; power outages can cause delays or the inability to connect. Technological issues are not acceptable excuses for late assignments. Be prepared and have a backup plan.*

**IV. Classroom and Lab Etiquette**

* Please do not use your personal technology for things unrelated to class.
* Please stay focused on the research!
* Class starts promptly at 10:00; be on time. Please let me know if you need to leave early or if you expect you may be late to class.
* We will take a lunch break from 11:00-12:00; please be prompt in your return.
* Be respectful of others and participate in class discussions and activities
* Ask questions when you have them!

**V. Grading Procedures**

**Grades**will be based on:

* Participation in lab (15%)
  + Lab notebook (15%)
* Paper drafts (15%)
* Final paper (55%)

**Grading Scale:**   
93-100 (A); 90-92.9 (A-); 87-89.9 (B+); 83-86.9 (B); 80-82.9 (B-)   
77-79.9 (C+); 73-76.9 (C); 70-72.9 (C-); 67-69.9 (D+); 60-66.9 (D); 59 or less (F)

***\*Please note that I do not “round up” grades***. Borderline scores will earn their respective letter grade (e.g., 89.9 = B+); however, I have been known to “round up” scores for students who attend class enthusiastically, participate, and demonstrate extraordinary effort throughout the semester.

**VI. College and Course Policies**

**Attendance**

This is a research-intensive course. To do well in this course, you are required to come to class. I do take attendance. While I do not “round” grades, I will take attendance into consideration when making decisions about final grades.

**Late Assignment and Make-up Policy**

Late papers and drafts will be docked 5 points per day, unless I am notified ahead of time. If you talk to me, I can handle this on a case-by-case basis.

*If you have truly exceptional circumstances, please talk to me! I am always willing to work with you. I know that life happens outside of class. If you are proactive in talking to me, we can work something out.*

**Academic Integrity**

I highly encourage collaboration during class discussion and activities. However, your paper writing will require your own work. Birmingham-Southern College’s liberal arts philosophy emphasizes the notion that its graduates will go out into society and improve the world at large. Students at Birmingham-Southern expand their worldviews through strong bonds with faculty, lifelong friendships, and unique experiences that perhaps take them across the world. Having a foundation built upon honor and integrity is implicit in the minds of people who aspire to improve their environments. The Honor Code at Birmingham-Southern rests as the cornerstone of the campus community. By pledging not to cheat, lie, or steal, members of the campus community hold each other to a higher standard which allows people to build trustworthy and long-lasting relationships.

Additional information on the honor code and violations can be found in the Birmingham-[Southern Student Handbook](https://www.bsc.edu/campus/studev/student-handbook/7/) and on [the BSC website](https://www.bsc.edu/campus/studev/honor-council/index.html).

**Accommodations for Students with Disabilities**

If you are registered for academic accommodations, please make an appointment with me as soon as possible to discuss accommodations that may be necessary. During this discussion you are not expected to disclose any details concerning your disability though you may discuss the details at your discretion. Visit the [Office of Accessibility](https://www.bsc.edu/campus/accomodations/index.html) for additional information or contact Dr. Sandra Foster, the Assistant Director of Accessibility Services & Resources, at 205-226-7909 or [smfoster@bsc.edu](mailto:smfoster@bsc.edu). If you have a disability but have not contacted the Director of Counseling & Health Services, please call 205-226-4717 or visit Counseling & Health Services in the Norton Campus Center to do so ASAP.

**Title IX**

Birmingham-Southern College is committed to the creation and maintenance of a safe learning environment for students and the campus community. The College forbids any type of sexual or gender-based misconduct among its students, faculty, and staff. The College encourages all members of the academic community to report suspected sexual and gender-based misconduct to the appropriate authorities so that it can be investigated, remedied, and eliminated. BSC forbids retaliation against any person who has opposed, reported, or participated in an investigation concerning sexual or gender-based misconduct. See [BSC Title IX](https://www.bsc.edu/titleix/index.html) for more information, including an [online report form](https://bsc.guardianconduct.com/incident-reporting). If you or a peer have experienced such misconduct, there are faculty and staff members who are trained in supporting students by answering questions and helping them navigate this process. The list of advocates can be found [here](https://www.bsc.edu/titleix/pdfs/Student-Advocate-Program-pdf.pdf), among other [helpful resources](https://www.bsc.edu/titleix/Resources.html) you will find listed on the Title IX website.

**Statement of Non-Discrimination**

No person shall, on the basis of age, race, religion, gender, sexual orientation, national origin, or disability, be excluded from participation in, or be denied the benefits of an education, or be subjected to discrimination. Please notify me in advance if there is a conflict. Religious beliefs will be reasonably accommodated with respect to all examinations and other academic requirements with early notification.

**Inclement Weather**

Inclement weather or other events beyond control of the College that might cause risk or danger to students, faculty, and staff may occasionally result in changes to normal College operations, including cancellation of classes or events; the calendar schedule may be adjusted.

**Student Grievance Policy**

Students should follow the complaint process as outlined in the current [Birmingham-Southern College Student Handbook.](https://www.bsc.edu/campus/studev/student-handbook/46/)

**VII. Additional Information**

**Study Skills and Tips**

In general, it is expected that successful students will spend approximately 3 hours outside of class (on readings, assignments, and studying) for every hour in class. Remember that these hours only count if you are focused (i.e., put away your phone so you aren’t distracted by Snapchat, TikTok, Instagram, etc.).

Remember that simply spending a lot of time studying isn’t going to do the job. Learn some effective study techniques. The University of North Carolina at Chapel Hill has a great [webpage](https://learningcenter.unc.edu/tips-and-tools/studying-101-study-smarter-not-harder/) with some study skills. You can find websites similar to this one with additional tips by searching “study smarter not harder.”

A study method that is rising in popularity is metacognition. Metacognition means thinking about your own thinking. Understanding how you learn and how to structure your time to help you learn is so important! I strongly recommend *Teach Yourself How to Learn*, by Saundra McGuire, PhD. If you don’t want to invest in the book, I recommend that you at least look over the summary of the key points in the link here: <https://theartofliving.com/teach-yourself-how-to-learn-by-saundra-mcguire/>. I am happy to help coach you through some metacognitive strategies, reach out if you’d like to set up a meeting.

**Help Outside of Class**

Here are some additional resources both on- and off-campus that are available to you.

* BSC [Writing Center,](https://www.bsc.edu/academics/arc/centers.html) [Math Lab](https://www.bsc.edu/academics/arc/tutoring.html), and [Academic Resource Center](https://www.bsc.edu/academics/arc/index.html)
* BSC Counseling Services 205-226-4717
* [Crisis Center of Birmingham](https://www.crisiscenterbham.org/) 205-323-7777
  + Crisis line, rape response, and recovery resources
* [Magic City Acceptance Center](https://www.magiccityacceptancecenter.org/)
  + Great space for LGBTQIA2S+ adolescents that provide lots of resources
* [YWCA](https://www.ywcabham.org/programs) 205-322-4878
  + Homelessness aid
  + Domestic violence aid

**XIII. Tentative Course Schedule**

\*Dates and schedule are subject to change.

\*\*Research moves at its own pace. Expect that you may need to come in (or get a friend to come in) to complete small tasks on days we do not meet.

Important Academic Calendar dates:

* Last day to add a Session B course, to select “S/U” option, and to change a course from grade to audit: June 2, 2022
* Last day to withdraw from BSC with tuition adjustment: June 7, 2022
* Last day to drop a course without a grade: June 7, 2022
* Last day to drop a course with a grade of “W”: June 21, 2022

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| **Date** | **Week** | **Tasks** |
| T 5/31/2022 | 1 | First Day of Class |
| W 6/1/2022 | 1 |  |
| Th 6/2/2022 | 1 |  |
| M 6/6/2022 | 2 | Annotated Bibliography due |
| T 6/7/2022 | 2 |  |
| W 6/8/2022 | 2 |  |
| Th 6/9/2022 | 2 | 1st Draft- Introduction, Methods, and Results due |
| M 6/13/2022 | 3 | 1st Draft Revision Day- Peer and Instructor Feedback |
| T 6/14/2022 | 3 |  |
| W 6/15/2022 | 3 |  |
| Th 6/16/2022 | 3 | 2nd Draft- Introduction Methods, Results, and Discussion due |
| *M 6/20/2022* | *4* | *We will not meet- Juneteenth* |
| T 6/21/2022 | 4 | 2nd Draft Revision Day- Peer and Instructor Feedback |
| W 6/22/2022 | 4 |  |
| Th 6/23/2022 | 4 | 3rd Draft- Abstract, Introduction, Methods, Results, and Discussion |
| M 6/27/2022 | 5 | 3rd Draft Revision Day- Peer and Instructor Feedback |
| T 6/28/2022 | 5 |  |
| W 6/29/2022 | 5 |  |
| Th 6/30/2022 | 5 | Final Rough Draft due |
| *M 7/4/2022* | *6* | *We will not meet- Independence Day* |
| T 7/5/2022 | 6 | In class revision day |
| W 7/6/2022 | 6 |  |
| Th 7/7/2022 | 6 | Final papers due |

Please note that on Wednesdays at 12:00 there will be research seminars with all students doing summer research. At the end of the seminar series, there will be presentations.