

Arts & Sciences Faculty Meeting
March 26, 2021

AGENDA

CALL TO ORDER: 3:15 p.m.

Ryan Hinrichs

APPROVAL OF MINUTES

Maria Masucci ----- pp. 5

DEAN'S UPDATES

Ryan Hinrichs

ACTION ITEMS:

Revisions to the Theatre major

Hannah Wells ----- pp. 10

Proposal for a new major in Cybersecurity

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REPORTS:

Curricular Report

Hannah Wells ----- pp. 10

Launch Report

Daniel Pascoe Aguilar ----- pp. 46

Enrollment Management Report

Colby McCarthy

Library Report

Andrew Bonamici ----- pp. 47

OLD BUSINESS/NEW BUSINESS

ANNOUNCEMENTS

Middle States Announcement

Hilary Kalagher

ADJOURNMENT

RECOGNITION OF DREW FACULTY ACHIEVEMENTS

College of Liberal Arts and Caspersen School of Graduate Studies
Faculty Meeting | Friday, March 26, 2021

BRIANNE BARKER

Biochemistry;Biology; Public Health

Brianne Barker for being interviewed and quoted regarding immune responses to SARS-CoV2 and vaccines. Pieces in which she is quoted include: "Coronavirus Reinfection Will Soon Become Our Reality" in *The Atlantic*, "Fetal Cell Lines Were Used to Make the Johnson & Johnson COVID Vaccine - Here's What That Means" in *Health.com*, "Coronavirus FAQs: Can I Drink Between Vaccine Doses? What Is 'Vaccine Efficacy'?" in *NPR's Goats and Soda*, and "How Much Should We Really Worry About the Coronavirus Variants?" in *Slate*.

BRIANNE BARKER and STEPHEN DUNAWAY

Biochemistry & Biology

Brianne Barker and Stephen Dunaway for attending the Keystone Symposium on COVID-19: A Year Later, on Feb. 8-9th. This symposium focused on the current state of understanding of both the humoral and cellular response to SARS-CoV-2, with a focus on therapeutics.

Brianne Barker and Stephen Dunaway for serving as scientific advisers for the political thriller novel "Threat Level Alpha: A Dan Morgan Thriller." The pair also served as characters in the novel.

LISA BRENNER and CHRIS CERASO

Theater Arts and Dance & Theater Arts and Dance

Chris Ceraso, together with Lisa Brenner, for producing the Theatre and Dance Department's, *Monstress*, a student devised play under the guidance of New York's renowned Tectonic Theater Project (the Laramie Project), as part of the Global Education Program's New York Semester on Theatre. March 25 and 26 on a Drew virtual platform (email Keanboxoffice@drew.edu), then streaming for two-weeks at BroadwayOnDemand.com <https://www.broadwayondemand.com/series/4lo8zE5X9wFR-monstress--drew-university>

Also (again with Lisa Brenner), for editing *Represent! New Plays for Multicultural Young People*, Bloomsbury/Methuen Drama, an anthology of 13 new plays written for and produced by Drew's AdvantageArts Program, a collaboration between Drew

University and the Newark school system, including one of his own and lesson plans to engage with the plays, also created by Ceraso and Brenner. International release on March 25 2021. <https://www.bloomsbury.com/uk/series/plays-for-young-people>
https://www.amazon.com/Represent-Plays-Multicultural-Young-People/dp/1350171875/ref=sr_1_1?crid=63SQXFDUBPOX&dchild=1&keywords=represent+new+plays+for+multicultural+young+people&qid=1615494116&prefix=Represent%21+New+%2Cstripbooks%2C170&sr=8-1

JOHN LENZ

Classics

John Lenz presented "The Oracle of Apollo at Delphi" to the Zoom Mythology Classroom based in India.

EMANUELE OCCHIPINTI

Italian

Emanuele Occhipinti was re-certified as an AAPPL (ACTFL Assessment of Performance toward Proficiency in Languages) Rater of Italian.

JENNIFER OLMSTED and CAITLIN KILLIAN

Economics; Sociology & Women's and Gender Studies; Middle East Studies

Jennifer Olmsted and Caitlin Killian recently published a report titled Women and Work: Improving Gender Integration in the Livelihoods Response to the Syrian crisis. The report involved field work in Jordan, Lebanon and Turkey and was commissioned by the United Nations Development Programme and is available at: <https://www.arabstates.undp.org/content/rbas/en/home/library/crisis-response0/women-and-work--improving-gender-integration-in-the-livelihoods.html>

JONATHAN READER

Sociology

On Feb. 12, Jonathan Reader gave an invited lecture at Kenyon College on Kai Erikson's Wayward Puritans, A Classic Revisited: Crime and Punishment in the Massachusetts Bay Colony.

KRISTEN TURNER

Teacher Education

Kristen Turner for being recognized on the Library Journal academic best seller list in education for her edited book, *Ethics of Digital Literacy: Developing Knowledge and Skills across Grade Levels*.

COURTNEY ZOFFNESS

English; Creative Writing

Courtney Zoffness, whose debut, *Spilt Milk*, published on March 2nd, and was named a "Must-Read Book for March" by Good Morning America. Courtney was interviewed by actor Jesse Eisenberg for *Interview* magazine, author Lynn Steger Strong for the *Paris Review*, Zibby Owens for her podcast "Moms Don't Have Time to Read Books," and the editors of *BookPage*, where *Spilt Milk* received a starred review. Excerpts appeared online in *Guernica* magazine and *LitHub*.

February 26,2021 A&S Faculty Meeting Minutes

via zoom: <https://drew.zoom.us/j/98132947506>

IN ATTENDANCE

FACULTY

Sarah Abramowitz, Erik Anderson, Christopher Andrews, Chris Apelian, Carolina Arango-Vargas, Lee Arnold, Di Bai, Alex Bajcz, Brianna Barker, Jim Bazewicz, Rachelle Belinga, Frances Bernstein, Jeremy Blatter, Marc Boglioli, Lisa Brenner, Barry Burd, Monica Cantero-Exojo, Timothy Carter, James Carter, Adam Cassano, Chris Ceraso, Jill Cermele, Raphaelae Chappe, Miao Chi, Kimberly Choquette, Graham Cousens, Allan Dawson, Alex de Voogt, Stephen Dunaway, Wyatt Evans, Christopher Fazen, Steven Firestone, Kimani Fowlin, Jonathan Golden, Summer Harrison, Ryan Hinrichs, Shakti Jaising, Sandra Jamieson, Lisa Jordan, John Jordan, Jason Jordan, Hilary Kalagher, Jason Karolak, Steven Kass, Rita Keane, Caitlin Killian, Roger Knowles, Wendy Kolmar, Amy Koritz, Minjoon Kouh, Margaret Kuntz, Juliette Lantz, Jens Lloyd, Jinee Lokaneeta, Yi Lu, Lisa Lynch, Maria Masucci, Patrick McGuinn, Christina McKittrick, Rosemary McLaughlin, Christopher Medvecky, Ziyuan Meng, Joanna Miller, Sangay Mishra, Scott Morgan, John Muccigrosso, Rory Mulligan, Phil Mundo, Robert Murawski, Adijat Mustapha, Nancy Noguera, Emanuele Occhipinti, Mary-Ann Pearsall, Karen Pechilis, Michael Peglau, Marie-Pascale Pieretti, Gerard Pinto, Muriel Placet-Kouassi, Judy Redling, Kim Rhodes, Jonathan Rose, Susan Rakosi Rosenbloom, Maliha Safri, Paris Scarano, Claire Sherman, Ellie Small, Bernard Smith, Rebecca Soderholm, Shawn Spaventa, Sharon Sundue, James Supplee, Phoebe Tang, Kristen Turner, Maria Turrero, Merel Visse, Hannah Wells, Trevor Weston, Tammy Windfelder, Courtney Zoffness

INVITED GUESTS

Margery Ashmun, Carol Bassie, Tanya Linn Bennett, Sunita Bhargava, Andrew Bonamici, Nora Boyer, Barb Bresnahan, Stephanie Caldwell, Ryman Curtis, Kristen Daily, Chris Darrell, Christy Hartigan, Cordelza Haynes, Kathy Juliano, Dawn LoMauro, Colby McCarthy, Frank Merckx, Joanne Montross, Daniel Pascoe Aguilar, Danielle Reay, Candace Reilly, Kareena Salvi

CALL TO ORDER: 3:15 p.m.

DEAN'S UPDATE

Dean Ryan Hinrichs opened the meeting acknowledging that missing student, Ajay Sah, has not yet been found and reiterated that the Madison Police continue to investigate and the Drew community is providing counseling services for anyone who might need support.

Ryan took a moment to celebrate Drew's commitment to COVID-19 health and safety protocols, announcing there were no active cases as of February 26, 2021 and urged continued diligence for the remainder of the semester.

Ryan shared some findings from the spring student climate survey. The full report can be found here: [Spring 21 Student Climate Survey Results](#). He thanked Judy Redling for delivery of this report and its timing which will allow for earlier interventions, where appropriate.

- Students living off campus represented the majority of respondents (66%).
- More than half of the respondents, including students living on campus, reported feelings of isolation.
- The vast majority of students living on campus rated their experience on campus *good to excellent* and they rated the level of community compliance with COVID safety protocols *good to excellent*.

- ❑ On campus students reported similar levels of engagement in classes and levels of confidence in successfully completing coursework as off campus students.
- ❑ On campus students generally reported a greater ability to cope with stress.
- ❑ Off campus students reported a significantly lower level of engagement with the Drew community.
- ❑ Among available resources, respondents were most interested in getting connected with student clubs and organizations, career coaching, and health and wellness resources.

Ryan reminded faculty to submit Beacon alerts for struggling students. He noted that approximately 20% of the current alerts are for seniors in good standing so he asked that any faculty advisors proactively check in, especially with those students, and make the appropriate referrals.

Ryan reported that the P/LP/U policy can be found on the registrar's website and provided this link: [Past Term COVID-19 Policy Changes](#). He shared that an additional 2 credit, second half of the semester class, has been added to the schedule to assist students who may be struggling to complete credits or find themselves short of credits because of late registration or other issues. It is TR 2:40 on American Folklore.

Ryan provided an update on CARES funding. He summarized the following:

- ❑ The Dean's Office has received several inquiries about whether there is still CARES funding left. The short answer is "yes."
- ❑ Priority is to support students with technological/financial needs who have not previously received funding.
- ❑ Total CARES funding to any one student is typically capped at \$2,000.
- ❑ Students must submit an application through the Financial Aid website.
- ❑ The application for this funding can be found here:
[Application for Emergency Funding - Covid-19](#)

Ryan announced that University Technology (UT) has been doing Ladder upgrades and as a result some Ladder petitions submitted since November have broken links. He asked that advisors please review any submitted petitions and if it appears not to be applied correctly to please be in touch with the Registrar's office.

Ryan announced that Summer Term Registration is approaching with the schedule going live on March 1st. He asked the faculty to please check the course listings if you are teaching a course. Registration for Summer begins March 15.

Ryan shared some updates regarding Textbook orders:

- ❑ The bookstore has begun returning unsold books from Spring courses. Please contact the bookstore immediately if there are books which students need only for the second half of the semester which they may not have purchased yet.
- ❑ Summer 2021 textbook adoptions will be due March 15. Fall 2021 textbook adoptions will be due April 16.
- ❑ We are working on making an online form to make entry easier but for now PLEASE submit for Summer courses as soon as possible using the textbook form which has been provided by the bookstore.

Ryan reported on progress around the creation of a University Events Calendar and informed the faculty to please submit their events via this link: [University Calendar Events - Submission Form](#)

Ryan announced that the Center for Immersive Learning would like to lend their support to departments and programs (and faculty) who are considering or already plan events with alumni

or career panels. In partnership with student clubs and organizations, Launch can help coordinate speakers and promote events. The hope is to have faculty complete a survey so that Launch can best plan how to offer that support. Please use this link to complete the survey: [Building AY 2021-2022 Launch Community Programming Survey](#)

Ryan welcomed Frank Merckx who provided an update on current enrollment and the admissions process. He reviewed the following presentation: [CLA Faculty Enrollment Management Presentation](#). He explained why and how Admissions is focusing on increasing yield this year by setting goals, partnering with Athletics and faculty on campus, and engaging with applicants pre-application via high schools and Naviance. Decisions will be released earlier than in years past and staff have received training on outreach to those admitted. Admissions and Communications have also been working hard on a redesign of the website “front door” and landing pages, creating new on-line programming, introducing live online virtual tours, utilizing greater redirect opportunities and marketing to parents for the first time. In addition, Financial Aid will release financial aid packages earlier than years past, and coupled with reducing the wait list by either accepting or declining applicants so real engagement can happen earlier in the admissions cycle.

Frank and Ryan thanked faculty for their engagement around events and willingness to have students attend classes and welcomed all faculty to participate fully in a variety of admissions activities and initiatives.

- ❑ In response to a question, Frank explained that the target class number is 425, with a yield target of 15% while retaining the same level of academic standards for admitted students.

Ryan concluded the discussion with the promise to share more detail of the CLA data as well as efforts by Kevin Miller and his team for the Caspersen School at future faculty meetings.

ACTION ITEM

Arts & Sciences Faculty Handbook

Roger Knowles explained that the full Handbook would be up for a faculty vote at this meeting, with a “yes” vote affirming the whole document, as presented with a friendly amendment, and a “no” vote would revert back to current faculty regulations. He shared suggestions and friendly amendments as a result of the faculty forums including:

- ❑ Recommended amendment to Section 4.1.e describing the faculty’s right to apply for assigned time was to add the following phrase at the beginning of that section: *In addition to those listed in this handbook*. This was recommended since specific assigned time positions were listed later in the section.

Other suggestions for inclusion in the continued work of the Dean’s Council included:

- ❑ Review of annual letters and whether, in addition to information about appointments, workload should be included in those letters, along with a description of how those relate to joint appointments and assigned time.
- ❑ Review of how sabbatical requests are evaluated.

- Add to the handbook, a description of where to find the list of all the assigned times on the UKNOW page.

Roger asked the faculty to vote, so moved and seconded:

Vote Results

Yes - 75

No - 0

Abstained - 7

Revision to the General Education Requirements

Ryan thanked the members of CAPC for re-engaging on this discussion, an important one that must continue forward.

Revision to the Diversity Requirements (Privilege, Power and Difference & Global Thinking)

Hannah Wells thanked CAPC and the design team and explained that the purpose of this discussion is for information gathering and that this is the next step, within a broader revision of Gen Ed that was laid out in the fall and spring of 2019 - 2020. At the start of this academic year, there was a shared sense that taking on the full revision, in the midst of the pandemic was too much, but that there was an urgency around the revision of the diversity categories, a product of a number of problems that faculty had identified with the current diversity categories, as well as a response to student concerns about race and racism in our curriculum.

Some issues with the current diversity categories:

- National vs international distinction.
- The language of diversity. The team wanted to acknowledge that diversity and anti racism are not the same thing. The language for these newer categories is rooted in a structural understanding of race and other forms of difference. It's focused, not just on representation, but on the histories of race and racism.
- Desire to have categories be more expansive, to incorporate more courses and tap areas of expertise.
- Categories are conceptually different from previous ones and do not map to previous distinctions
- Categories are not meant to map to particular disciplines. They should be distinct from each other but with overlap.

Hannah explained the difference and overlap between the two and further added what was learned from the team's benchmarking and review of 16 schools:

- Drew is not unique in the language chosen or in distinguishing between the two.
- There is a trend for de-centering the US.
- Global categories had varying degrees of ethics included.

Feedback included the following:

- Students should not be expected to speak to or disclose their position in their own lives.
- If it's a global class, global thinking should be measured (vs ethical thinking).
- Should ethics be in SLOs at all? Isn't everything we do about ethics?
- Does this flatten the hierarchies? Could this reduce the number of courses, rather than increase.

-The current language of gender and inequality signals a particular lense and without those words, a course might be taught without addressing those.

-Student discussions in the US context need to be retained, but where in the curriculum?

-Will there be faculty training to help implement these SLOs?

-Students should be challenged outside their local sense of who they are. How to help students be reflective?

-How will this be transferable to the real world? With the focus on immersive learning, should we consider an immersive experience to accomplish this?

Ryan added that consideration of the whole of Gen Ed vs. sections could be a conversation for the next faculty meeting.

Curricular Report

Hannah welcomed any questions. There were none.

Launch Report

Daniel Pascoe-Aguilar invited the faculty to please use this link to complete survey about how best to partner with them: [Building AY 2021-2022 Launch Community Programming Survey](#)

He highlighted developments around Drew 110 and welcomed any questions on his report.

Library Report

Andrew Bonamici expects to address the need for printing in the very near future but asked that most assignments please continue to be electronic. He highlighted that Inter-Library Loans have resumed on a limited basis and welcomed everyone to review the report and reach out with any questions.

Announcements

Drew Food Pantry - Donations welcomed (single serve food and toiletries).

Civic Award Nominations - Please offer nominations now.

Encourage students to apply for scholarships, especially senior year. Please visit the website so that conversations around conversations start now: [External Scholarships and Fellowships](#)

Ryan concluded the meeting.

Minutes respectfully submitted by,

Christy Hartigan

Curricular Report March 2021

For Action:

- Revisions to the Theatre major
- Proposal for a new major in Cybersecurity

For Information:

Invitation:

There will be a meeting on April 14th at 4:15 pm to discuss the ongoing revision of PPD and GT in relation to the broader Gen Ed revision.

New Major:

- Cybersecurity

New Courses:

- CE 270/Innovation Action Lab
- CSCI 270/Philosophy and Ethics of Cybersecurity
- CSCI 352/Secure Code Analysis

Changes to Existing Major/Minor:

- Chemistry BA (for vote at April faculty meeting)

Gen Ed Designations:

- CSCI 270/Philosophy and Ethics of Cybersecurity [BINT, WRIT]
- Drew 110 TA [IMMX]
- Summer College Mentoring (2021 Only) [IMMX]
- Summer College Mentoring [IMMX]
- Lab Teaching, Chemistry Stockroom Manager [IMMX]

For Action:

- Revisions to the Theatre major

Proposals for Revision of an Existing Major

Proposals for significant revisions to existing majors must be submitted for CAPC review 4 weeks before the CLA faculty meeting at which the department hopes to have the major revisions presented. Earlier submission allows for more time for comments and questions before a proposal is finalized for presentation to the faculty. Before presenting a proposal to the CAPC, Departments are expected to consult with the other departments in their division and with any other departments whose offerings or majors will be affected by the revisions.

Proposals should include all of the sections outlined below and should be introduced by the Major

Proposal Submission Cover Sheet.

[NOTE from CAPC: The following proposal was approved in two parts. Part A was approved by CAPC in November. In conversation with the Theatre Department about the proposed elective offerings, CAPC learned that the department was at work on a follow-up proposal for concentrations that would alter the elective structure of the first proposal. This follow-up proposal, which is labeled part B below, was passed by CAPC in March. The revised catalog copy that follows combines both stages of this revision.]

Part A:

I. Rationale

What is the rationale for the department's proposal to revise the major at this time? Is there assessment data to support the revision? Are the revisions a response to an external review of the department? How do the revisions relate to the objectives articulated in your five-year plan? Are there external benchmarks for the major such as national association standards or comparable programs at our comparison or peer institutions which are being used in the revision?

In the summer of 2020, a collective letter to the university listed several items that students, faculty, staff, and alumni would like to see addressed. Number five stated:

Professors must reevaluate their syllabi—Black people should not be consolidated to a 'special topic of the week.'

The department of Theatre & Dance also held a town hall specifically examining issues of representation, equity, and diversity in our department. Along with the issue of reevaluating our individual syllabi, comments reflected the need to reevaluate the curriculum as a whole. Noting that "diversity" courses were elective courses meant that students would not necessarily take these classes as part of the major. We began by looking at our Major SLOS. We added SLO #4

Students can convey in words and images how theatre reflects and shapes society.

In connection to that SLO, we decided to change our Dramatic Literature requirement to courses that fundamentally address this SLO considering representation, equity, and diversity. We therefore wish to change the requirement to courses that focus on selected topics in Dramatic Literature with an emphasis on diverse populations and/or cultures. Plays covered explore the ways in which artistic representation both reflects and shapes how groups of people are perceived and perceive themselves.

Other minor changes include

- Changing the course name of THEA 345 - Problems in Directing to THEA 345- Advanced Directing. This will better align with THEA 245- Intermediate Directing. It will better signal to students and those looking at a transcript what this course is.
- Changing the course name of THEA 362- African-American Theatre to THEA 362- Black Theatre. This language better reflect current terminology.
- We also are adding a Theatre Practice for Applied Performance, so that students can get credit for this type of hands-on work (and provides another means for an Immersive Experience). THEA 316: Applied Performance
- Finally, we need to add courses to the major requirement options that have been consistently offered and already have course codes:

THEA 317: Out of The Box festival:

Dance courses DANC 102 - Beginning Ballet, DANC 202 - Intermediate Ballet, DANC 103 -Tap.

Note: The Out of the Box Festival is now officially part of our production season. It is an opportunity for students to collaborate between theatre & dance and to experiment with styles and site-specific work. It, like our other theatre practices, counts for an immersive experience.

II. Learning Objectives

How has the department defined its learning objectives? How do the major revisions address these objectives and more fully implement them?

The Theatre & Dance Department has refined its SLOS:

1. Students can embody collaborative practices to achieve a common goal.

Assessment: Surveys and Theatre Practice reflection papers. **Having more options for Theatre Practice gives students more opportunity to practice collaboration.**

2. Students can evaluate how production choices convey meaning to an intended audience.

Assessment: Production Reviews.

3. Students can demonstrate proficiency within a discipline (acting/dancing, directing, choreography, design, technical theatre, management, playwriting, or dramaturgy) by applying classroom knowledge and skills to the creation of a theatrical production.

Assessment: Faculty watching and evaluating student performances. [Faculty fill out forms based on a rubric]

Having more options for theatre practice and more specialized theatre and dance courses allows for more opportunity to demonstrate these skills.

4. Students can convey how theatre reflect and shape society.

Assessment: Final papers for Theatre & Representation courses. **Having this major requirement will help us have a specific set of courses to target this assessment.**

Part B. Concentrations:

This is not a new major but rather a reconceiving of our major to make it more marketable and appealing with various concentrations. This revision is based on consistent feedback from Admissions in the last few years, as well as an effort to better align our major with Launch. By offering concentrations, students can better identify appropriate Immersive Experiences, honors theses, and capstone experiences; in turn, by declaring a concentration, students can better signal to mentors and employers their interests and qualifications.

The capstone has also been reimagined so that all students receive guidance and preparation for next steps post-graduation. The capstone would include two parts: a 2-credit practical, Immersive experience related to their concentration, with a specific mentor in that area (THEA 402 now has sections corresponding to individual disciplines and professors. E.g., Jim Bazewicz's section is for students focusing on design). Plus, a 2-credit seminar that introduces students to the professional

world/graduate education and helps them develop materials needed (resumes, writing samples, portfolios, etc.). Some students have received this opportunity either through a special topics course (The Business of Theatre) or through the NY Semester. THEA 400 would ensure equity and accessibility for all majors.

Brief Description of Proposed Major

The Theatre & Dance curriculum is designed to be both rigorous and flexible, allowing students to pursue their interests in multiple disciplines. The majority of our students already self-identify in at least one area of concentration within the major; this change is simply bringing greater visibility and deliberation to students' interests/skill sets. It in fact streamlines the major and makes the elective courses and theatre practice requirement more deliberate.

Here is our department mission statement: *The Theatre and Dance Department offers its diverse community of learners a broad-based study of the history, theory, and practice of theatre and dance in the context of a liberal arts education. Our rigorous production program centers on student involvement and leadership along with close faculty mentorship. We are dedicated to producing a season and teaching a curriculum that represents the diversity of our world and responds to the urgent challenges of our time through art and active engagement within the university and beyond. We prepare our students for the knowledge and skills needed for the professional world, while growing their abilities as critical thinkers, innovative problem-solvers, and responsible collaborators.*

List new courses that would need to be added to offer this new major.

The concentrations simply make visual and better organized what is currently offered within the major. The new courses: THEA 145 and THEA 403 are accounted for in our teaching loads (see below).

Are there any synergies or potential overlap with existing CLA programs?

The whole purpose is to create synergies within the Theatre and Dance major. Students can choose more than one concentration if they wish, but the concentration focuses them more in terms of professional planning. The other obvious overlap is with Civic Engagement for the Applied Performance concentration, as the courses are CBL classes. The performance concentration also creates synergies between Theatre and Dance.

Please describe any additional information and/or data that supports the creation of this program.

Muhlenberg, one of our biggest competitors, has changed their major in this direction: "Starting with the Class of 2024, the curriculum for the Theatre major has been overhauled to allow our students greater flexibility and greater breadth in their studies. It is just as possible as ever for theatre students to focus their studies in one particular area, and we will continue to offer just as many courses in every discipline as we have in the past — more, in many cases. Students who would prefer to design a multifocus, multifaceted curriculum will find it easier than in the past. This curriculum is based on foundational courses (both academic and artistic), practical courses, electives, and a senior capstone." They are also offering concentrations (called "paths) in similar areas we have proposed.

The top-ranking Theatre program right now is Ithaca College.

They offer a BA in Theatre Studies, BFA in Acting, BFA in Musical Theatre, BFA in Stage Management, BFA in Theatre Production & Design, BS in Theatre Arts Management, and a dance minor and theatre minor. We do not (yet) have the resources to offer BFA/BS programs (although that is a future possibility). Concentrations would offer a similar attraction to students and could be a steppingstone towards such specialized degrees should there become significant traction.

#2 Carnegie Mellon offers a BFA in Acting/Music Theatre; BFA in costume design; a drama minor; a BFA in dramaturgy; a BFA in lighting design; a BFA in scenic design; a BFA in sound design; a BFA in production technology; A BFA in production & stage management; a BFA in technical direction; a BFA in directing; and a BFA in video and media design.

#3 Wagner College offers a BS in arts administration; BS in dance education; a dual major in theatre & education; and BA in theatre with concentrations in performance, design/technology/management, and Theatre Studies.

#4 Purchase College describes its students as “citizen artists.” They offer BFAs in acting and in design, and a BA and a minor in theatre & performance. [They also offer a political theatre TREC in Prague]. The Applied performance concentration highlights this aspect of our program.

#5 Brown University offers concentrations in Theatre Arts, Performance Studies, or Dance.

#6 Elon offers BFAs in Acting, Arts Administration, Dance Performance & Choreography, Dance Science, Music Theatre and Theatrical Design and Technology; a BA in Drama and Theatre Studies (BA). They also offer minors in dance, theatre arts, and theatre design & technology.

#7 Emerson offers BFAs in acting, musical theatre, stage & screen design technology; stage & production management; theatre & performance; and theatre education; theatre; and comedic arts. They have minors in dance; music history & culture; comedy writing & performance.

#8 Hollins University offers certificates in musical theatre and arts administration. Its BA includes acting, musical theatre, design, directing, stage management, and technical production. The theatre major has a flexible structure allowing students to focus in one of three areas: acting/directing, design/technology, playwriting/history/dramaturgy or any combination of these three.

#9 Bard College offers BAs in theatre & performance; dance; film and electronic arts, and more. #10 Wesleyan offers BAs in theatre and also dance that (they advertise) prepare students for graduate degrees in acting, arts management, design, directing, theater history, and performance studies. They also offer minors in dance, and film studies. Other schools that offer theatre concentrations include: University of Indianapolis; UC Santa Barbara, Fordham, Texas State, Montclair State, Temple, Wagner, Clark, Indiana, California University of Pennsylvania, De Paul, James Madison, Brown, Ramapo, and several others. November 2007

CURRENT MAJOR:

Requirements for the Major (49-53 credits)

I. Core (30 credits)

- THEA 101 - The Art of the Play
- THEA 120 - Theatre Technology
- THEA 135 - Acting and Directing

- THEA 210 - Theatre History I: Origins to the Renaissance
- THEA 220 - Theatre Design
- THEA 255 - Playwriting
- THEA 310 - Theatre History II: Restoration Through World War I
- THEA 366 - Dramaturgy

II. Dramatic Literature (4 credits)

- THEA 264 - Show: Business
- THEA 265 - Women in Theatre
- THEA 268 - Special Topics in Dramatic Literature
- THEA 311 - Contemporary Performance and Critical Theory
- THEA 362 - African-American Theatre
- THEA 365 - Selected Topics in Dramatic Literature
- THEA 367 - Enter Laughing: On Women, Men and Comedy
- THEA 380 - London Semester Interdisciplinary Colloquium
- THEA 383 - British Political Drama (London)

III. Dance (2 credits)

- DANC 101 - Beginning Movement Studies
- DANC 155 - Introduction to Afro Fusion Dance and Culture
- DANC 201 - Intermediate Movement Studies
- DANC 220 - Movement for the Musical Stage
- DANC 250 - Special Topics in Dance
- DANC 255 - Afro Fusion Dance and Culture
- DANC 322 - Choreography and Performance Studies
- DANC 350 - Special Topics in Dance November 2007

IV. Practical Application (3 credits)

All students must complete THEA 302 or two credits (in any combination) of THEA 301-309 and/or THEA

313, 314, 315, 318, 319, with any combination of the following for a total of three credits.

- THEA 301 - Theatre Practice: Playwriting
- THEA 302 - Theatre Practice: Shop Technician
- THEA 303 - Theatre Practice: Design - Sets One or Two
- THEA 304 - Theatre Practice: Stage Management - Sets One or Two
- THEA 305 - Theatre Practice: Acting - Sets One or Two
- THEA 306 - Theatre Practice: Dance
- THEA 307 - Theatre Practice: Design for Dance
- THEA 308 - Theatre Practice: Electrician/Technical Director - Sets One or Two
- THEA 309 - Theatre Practice: Dramaturgy
- THEA 313 - Theatre Practice: Design- Sets Three or Four
- THEA 314 - Theatre Practice: Stage Management; Sets Three or Four
- THEA 315 - Theatre Practice: Acting - Sets Three or Four
- THEA 318 - Theatre Practice: Electrician/Technical Director - Sets Three or Four
- THEA 319 - THEA Practice: Dramaturgy - Sets Three or Four

V. Electives (6-8 credits)

Six to eight credits from two different areas in the theatre and dance curriculum with a minimum of four

credits at the upper level. To be selected in consultation with and approved by the major advisor in preparation for the senior capstone.

Note: Students fulfilling their capstone requirement with THEA 400 + THEA 401 OR with THEA 410

+

THEA 411 must complete six credits. Students fulfilling their capstone requirement with THEA 402 must

complete eight credits.

Acting:

- SPCH 301 - Advanced Speech
- THEA 232 - Actor's Lab: Monologues I
- THEA 233 - Actors' Lab: Scenes I
- THEA 235 - Movement for the Actor
- THEA 330 - Advanced Acting: Technique
- THEA 333 - Actors' Lab: Scenes II
- THEA 236 - The Actor's Voice
- THEA 338 - Advanced Acting: Special Topics

Dance: November 2007

Note: Up to four credits of dance electives, above the two credits of required Dance, may be applied to the

Theatre Arts Major.

- DANC 201 - Intermediate Movement Studies
- DANC 220 - Movement for the Musical Stage
- DANC 250 - Special Topics in Dance
- DANC 300 - Independent Study in Dance
- DANC 322 - Choreography and Performance Studies
- DANC 350 - Special Topics in Dance

Design and Tech:

- THEA 225 - Scene Painting
- THEA 320 - Advanced Theatre Technology
- THEA 321 - Historic Research for Theatrical Production
- THEA 322 - Creative Collaboration
- THEA 323 - Graphic Communication for the Theatre
- THEA 324 - Sound Design for the Theatre Arts
- THEA 325 - Advanced Set Design
- THEA 326 - Advanced Lighting Design
- THEA 327 - Advanced Costume Design

Directing:

- THEA 245 - Intermediate Directing
- THEA 345 - Problems in Directing

Dramatic Literature, History, and Criticism:

- THEA 264 - Show: Business
- THEA 265 - Women in Theatre
- THEA 268 - Special Topics in Dramatic Literature
- THEA 269 - Special Topics in Dramatic Literature
- THEA 311 - Contemporary Performance and Critical Theory
- THEA 362 - African-American Theatre
- THEA 365 - Selected Topics in Dramatic Literature
- THEA 367 - Enter Laughing: On Women, Men and Comedy
- THEA 380 - London Semester Interdisciplinary Colloquium
- THEA 383 - British Political Drama

Playwriting: November 2007

- THEA 355 - Advanced Playwriting

Off-Campus Learning

- THEA 200 - The Shakespeare Theatre of New Jersey Apprenticeship/ Internship
- THEA 270 - Introduction to Performing Arts Administration
- THEA 380 - London Semester Interdisciplinary Colloquium
- THEA 385 - Applied Performance: Addressing Sexual Harassment, Violence, and Discrimination through Interactive Performance
- THEA 386 - Theatre in The Community: The Newark Collaboration
- THEA 387 - Theatre Semester: Internship
- THEA 388 - Theatre Semester: Independent Study
- THEA 389 - Special Topics in Applied Performance

VI. Capstone (2-8 credits)

Students can fulfill the capstone requirement by taking

THEA 402 - Independent Capstone Project

OR

Students may also fulfill this requirement by completing the following two course sequence:

THEA 400 - Theatre Arts Capstone: New York City Colloquium +

THEA 401 - Theatre Arts Spring: New York City Performance and Residency

OR

In consultation with the department, students may choose to fulfill their capstone requirement by completing

an eight credit honors thesis.

THEA 410 - Specialized Honors I

THEA 411 - Specialized Honors II

VII. Departmental Events

Majors are expected to support all department events, but are required to attend designated strikes, majors'

meetings, special events and workshops.

VIII. Departmental Productions

Majors are also required to attend opening nights of all major departmental productions, and are expected

to attend all workshops, Plays in Process reading, and all special departmental meetings and functions. November 2007

Revised Major with additions to the major highlighted:

Requirements for the Major (53 credits)

I. Core (33 credits)

-
- THEA 101 - The Art of the Play (4)
 - THEA 120 - Theatre Technology (4)
 - THEA 135 - Acting and Directing (4)
 - THEA 135 Introduction to Acting (2 credits)
 - THEA 145- Introduction to Directing (4 credits)
 - THEA 210 - Theatre History I: Origins to the Renaissance (4)
 - THEA 220 - Theatre Design (4)
 - THEA 255 - Playwriting (4)
 - THEA 310 - Theatre History II: Restoration Through World War I (4)
 - THEA 366 - Dramaturgy (2)
 - THEA 302- Shop Technician [moved into this section] (1)

II. Theatre & Representation (4 credits) [new name]

- THEA 265 - Women in Theatre
- THEA 268 - Special Topics in Dramatic Literature [DUS]
- THEA 269- Special Topics in Dramatic Literature [DIT]
- THEA 311 - Contemporary Performance and Critical Theory
- THEA 362 - Black Theatre
- THEA 367 - Enter Laughing: On Women, Men and Comedy
- THEA 383 - British Political Drama (London)

III. Dance (2 credits)

-
- DANC 101 - Beginning Movement Studies
 - DANC 102 - Beginning Ballet
 - DANC 103 -Tap
 - DANC 155 - Introduction to Afro Fusion Dance and Culture
 - DANC 201 - Intermediate Movement Studies
 - DANC 202 - Intermediate Ballet
 - DANC 220 - Movement for the Musical Stage
 - DANC 250 - Special Topics in Dance
 - DANC 255 - Afro Fusion Dance and Culture
 - DANC 322 - Choreography and Performance Studies
 - DANC 350 - Special Topics in Dance

IV. Concentrations (10) November 2007

In addition to the core requirements for the Theatre Major, 10 credits from an area of concentration in the Theatre and Dance curriculum with a minimum of 4 credits at the upper level.

To be selected in consultation with and approved by the major advisor in preparation for the senior capstone.

Students who opt not to pursue a concentration may still earn a BA in Theatre by completing 10 elective credits from any of the following areas comprising 8 credits of coursework and 2 credits of theatre practice.

1. Performance:

8 credits from the selection below

- • DANC 101 - Beginning Movement Studies
- • DANC 102 - Beginning Ballet
- • DANC 103 -Tap.
- • DANC 155 - Introduction to Afro Fusion Dance and Culture
- • DANC 201 - Intermediate Movement Studies
- • DANC 202 - Intermediate Ballet
- • DANC 220 - Movement for the Musical Stage
- • DANC 250 - Special Topics in Dance
- • DANC 255 - Afro Fusion Dance and Culture
- • DANC 322 - Choreography and Performance Studies
- • DANC 350 - Special Topics in Dance
- • THEA 200 - The Shakespeare Theatre of New Jersey Apprenticeship/ Internship
- THEA 232 - Actor's Lab: Monologues I
- THEA 233 - Actors' Lab: Scenes I
- THEA 235 - Movement for the Actor
- THEA 330 - Advanced Acting: Technique

- THEA 333 - Actors' Lab: Scenes II
- THEA 236 - The Actor's Voice
- THEA 338 - Advanced Acting: Special Topics
- THEA 391 - New York City Colloquium [new course number]

Plus at least two credits from the following: November 2007

- THEA 305 - Theatre Practice: Acting - Sets One or Two
- THEA 306 - Theatre Practice: Dance
- THEA 315 - Theatre Practice: Acting - Sets Three or Four
- THEA 317: Out of The Box festival

2) Design and Technology:

8 credits from the selection below

- THEA 225 - Scene Painting
- THEA 320 - Advanced Theatre Technology
- THEA 321 - Historic Research for Theatrical Production
- THEA 322 - Creative Collaboration
- THEA 323 - Graphic Communication for the Theatre
- THEA 324 - Sound Design for the Theatre Arts
- THEA 325 - Advanced Set Design
- THEA 326 - Advanced Lighting Design
- THEA 327 - Advanced Costume Design
- THEA 391 - New York City Colloquium [new course number]

Plus at least two credits from the following:

- THEA 303 - Theatre Practice: Design - Sets One or Two
- THEA 307 - Theatre Practice: Design for Dance
- THEA 308 - Theatre Practice: Electrician/Technical Director - Sets One or Two
- THEA 313 - Theatre Practice: Design- Sets Three or Four
- THEA 317- Out of The Box festival
- THEA 318 - Theatre Practice: Electrician/Technical Director - Sets Three or Four

3) Playwriting & Dramaturgy

8 credits from the selection below

- THEA 355 - Advanced Playwriting
- THEA 264 - Show: Business
- THEA 265 - Women in Theatre
- THEA 268 - Special Topics in Dramatic Literature November 2007
- THEA 269 - Special Topics in Dramatic Literature
- THEA 311 - Contemporary Performance and Critical Theory
- THEA 355 (if repeating for credit)
- THEA 362 - Black Theatre
- THEA 365 - Selected Topics in Dramatic Literature
- THEA 367 - Enter Laughing: On Women, Men and Comedy
- THEA 380 - London Semester Interdisciplinary Colloquium
- THEA 383 - British Political Drama
- THEA 391 - New York City Colloquium [new course number]

Plus at least two credits of the following:

- THEA 301 - Theatre Practice: Playwriting (can be repeated for credit)

- THEA 309 - Theatre Practice: Dramaturgy (can be repeated for credit)
- THEA 317- Out of The Box festival
- THEA 319 - Theatre Practice: Dramaturgy - Sets Three or Four (can be repeated for credit)

5) Directing and Stage Management:

8 credits from the selection below

- THEA 204/214: Introduction to Stage Management [new course]
- DANC 322: Choreography
- THEA 245 - Intermediate Directing
- THEA 270 - Introduction to Performing Arts Administration
- THEA 391 - New York City Colloquium [new course number]

Plus at least two credits from the following:

- THEA 304 - Theatre Practice: Stage Management - Sets One or Two [can be repeated for credit]
- THEA 314 - Theatre Practice: Stage Management; Sets Three or Four [can be repeated for credit]
- THEA 317: Out of The Box festival
- THEA 345 - Advanced Directing [can be repeated for credit]

6) Applied Performance and Community Engagement:

8 credits from the selection below November 2007

- THEA 385 - Applied Performance: Addressing Sexual Harassment, Violence, and Discrimination through Interactive Performance
- THEA 386 - Theatre in The Community: The Newark Collaboration
- THEA 389 - Special Topics in Applied Performance

Plus THEA 316: Theatre Practice: Applied Performance;

and one credit from the following:

- THEA 309 - Theatre Practice: Dramaturgy
- THEA 317: Out of The Box festival
- THEA 319 - THEA Practice: Dramaturgy - Sets Three or Four

VII. Capstone (4 credits)

Capstone projects should be the culminating experience of one or more concentrations.

Students can fulfill the capstone requirement by taking:

THEA 400: Being a Theatre Professional (2) [new course]

PLUS

THEA 402 - Independent Capstone Project (2)

OR

- THEA 401 - Theatre Arts Spring: New York City Performance and Residency

Note: Students cannot take THEA 401 without the prerequisite of THEA 391. Therefore, students who wish to fulfill their capstone with THEA 401, will automatically have THEA 391 applied to the fulfillment of their concentration or elective requirements.

Note: In consultation with the department, students may choose to fulfill their capstone requirement by completing an eight-credit honors thesis.

VII. Departmental Productions and Events

Majors are required to attend opening nights of all major departmental

productions, majors' meetings, designated strikes, and workshops. November 2007
To remain in good standing, majors are also expected to support all department events by attending Plays in Process readings and all special departmental meetings and functions

- [Proposal for a new major in Cybersecurity](#)

1. Program mission and rationale.

What is the mission and rationale for creating this new major or program? How will the new major/program contribute to the undergraduate/graduate education at Drew? What evidence is there of student interest in the major? How have external benchmarks for the major such as national association standards or comparable programs at our comparison or peer institutions been used in developing this proposal?

Briefly describe the benchmarking process and stakeholder discussion informing this proposal.
Note: more detailed information is required below.

The proposed coursework is for a cybersecurity major with a liberal arts emphasis. It is interdisciplinary, includes the foundations of software security, and has flexibility through elective offerings so students can opt to choose emphases in software, systems, or interdisciplinary contexts. By the end of the courses in the major, students will be able to identify common vulnerabilities in a software system and propose appropriate countermeasures and mitigation solutions according to best security industry practices. They will also be able to critically evaluate legal and ethical issues in cybersecurity practices and solutions. We found only one other peer school, Rider, that offers a liberal arts version of a cybersecurity major, and very few schools that offer cybersecurity as an undergraduate major. Rider's program does not include the substantial interdisciplinary component that ours does. We see this as an opportunity.

We have demonstrated student interest because we have offered several courses in this proposed program as electives and those have had robust enrollments. The only exception has been CSCI 255 Principles of Cybersecurity in Spring 2021 because that was added after the enrollment period ended.

Sarah Abramowitz, Ziyuan Meng, and Ryan Hinrichs met with two cybersecurity professionals, Judi Germano, founder of Germano Law and Professor at the NYU Center for Cybersecurity, and Amy Gideon, President of Tag Online, to evaluate the program and they were very enthusiastic. We also met with chairs from contributing programs, MCOM and BST, who were both encouraging. Further, we emailed chairs from PHIL and PSCI who were supportive, but unable to meet in person.

2. Program goals, objectives and student learning outcomes.

Student learning outcomes describe the knowledge and skills students should be able to demonstrate upon completion of the major/program. Please consult with the Director of Student Assessment in writing SLOs for your major/program.

SLOs for Cybersecurity

By the end of this course of study, students will be able to

1. Identify the appropriate cryptographic algorithms and protocols for a given situation
2. Implement secure software
3. Assess the vulnerability of software and hardware
4. Evaluate the usability of a security solution
5. Evaluate the social, philosophical, ethical, and legal dimensions of cybersecurity.

3. Major/Program curriculum and requirements.

- a. *Outline the requirements for the major and provide a rationale for the proposed major structure and courses.*

We are proposing an interdisciplinary major with a core curriculum in cybersecurity and in computer science and electives from a variety of related disciplines.

Students would not be permitted to double major in Cybersecurity and Computer Science, because there is so much overlap between the two majors.

Requirements for Major

Core Computer Science: (4 classes)

Introductory programming (Three options: CSCI 149 (Javascript), CSCI 150 (Python), OR STAT 120 (R)). Offered every semester.

CSCI 151 Object Oriented Programming in Java. Prerequisite: CSCI 149, CSCI 150, or STAT 120 with a grade of C- or better. Offered every semester.

CSCI 260 Computer Systems and Architecture. Prerequisite: CSCI 151 or CSCI 230 with a grade of C- or better. Offered every fall.

CSCI 330 Databases and Information Management. Prerequisite: CSCI 151 **OR** CSCI 360 Operating Systems. Prerequisite: CSCI 230 and CSCI 260. Offered every spring.

Core Cybersecurity (5 classes)

CSCI 255 Principles of Cybersecurity. Prerequisite: CSCI 149, CSCI 150, or STAT 120 with a grade of C- or better. Offered every fall. Offered every spring.

CSCI 250 Web Application Development. Prerequisite: CSCI 149, CSCI 150, or STAT 120 with a grade of C- or better. Offered annually. Offered every fall.

CSCI 270 Cybersecurity: Philosophy and Ethics. This course is Writing Intensive and has no prerequisites. Offered every fall.

CSCI 350 Networks and Security. Prerequisite: CSCI 151 with a grade of C- or better. Offered every spring. Offered every fall.

CSCI 405 System Vulnerability and Security – Serves as capstone and writing in the major.

Prerequisites: CSCI 250, CSCI 255, CSCI 260, and CSCI 270 with a grade of C- or better. Offered every spring.

Electives (3 classes) Students may take any set of three elective courses from the following list. Some suggested groupings are provided below the list.

ALL ELECTIVES

BST 310 Management

BST 344 Organizational Ethics

CSCI 370 Algorithms and Computability. Prerequisite: 220 & 230

CSCI 357 Cryptography

CSCI 340 Software Engineering. Prerequisite: 151 & 230

CSCI 345 Mobile Application Development. Prerequisite: 151

CSCI 352 Secure Code Analysis. Prerequisite: 260

CSCI 230 Data Structures. Prerequisite: 149/150

CSCI 330 Databases. Prerequisite: 151

CSCI 360 Operating Systems. Prerequisite: 230 & 260

DATA 200 Data Science: Introduction, History, and Case Studies

ECON 242 International Business

MATH 117 Introduction to Statistics

MATH 220 Discrete Mathematics

MCOM xxx Privacy Theory (New course – will be included in catalog copy after it's proposed)

PHIL 104 Introduction to Ethics

PHIL 304 Ethics and Society

PSCI 104 International Relations

PSCI 247 International Security

PSCI 363 The National Security Council

REL 214 Business Ethics

STAT 240 Statistical Machine Learning

SUGGESTED ELECTIVE GROUPINGS

Software emphasis

- CSCI 340 Software Engineering
- CSCI 352 Secure Code Analysis.
- CSCI 345 Mobile Application Development

Systems emphasis or Network Security emphasis:

- CSCI 360 Operating Systems (Taken as core or elective)

- CSCI 330 Databases and Information Management (Taken as core or elective)
- CSCI 357 Cryptography
- MATH 220 Discrete Mathematics

Society and Ethics emphasis

- PHIL 104 Introduction to Ethics OR PHIL 304 Ethics and Society
- MCOM xxx Privacy Theory
- DATA 200 Data Science: Introduction, History, and Case Studies

Business emphasis

- BST 310 Management
- ECON 242 International Business
- BST 344 Organizational Ethics

International & Homeland Security:

- PSCI 104 International Relations
- PSCI 247 International Security
- PSCI 363 The National Security Council

b. Provide complete catalog copy for the major/program as you want it to appear in the on-line catalog and the next print catalog. For CLA majors, please clearly indicate the Writing in the Major (WMJR) course(s).

Catalog Copy

Cybersecurity

About the Program

Cybersecurity is a rapidly growing discipline that combines applied computer science with an understanding of cyberattacks, ethics, and the protection of privacy. Drew's cybersecurity program teaches students to design, evaluate, and secure computer systems to avoid and respond to real-world security threats. The curriculum also provides a cross-disciplinary understanding of the social and ethical environments in which we practice this discipline.

Advanced Placement (AP) Examinations

A score of 4 or 5 on the computer science A or AB examinations exempts a student from CSCI 150. Consult with the department about proper placement.

Cybersecurity Major (BS)

Requirements for the Major (48 credits)

I. Required Courses in Computer Science (16 credits)

CSCI 149 (Introduction to Programming in JavaScript) **OR** CSCI 150 (Introduction to Programming in Python) **OR** STAT 120 (Statistical Programming in R)
CSCI 151 Object Oriented Programming
CSCI 260 Computer Systems and Architecture
CSCI 330 Databases and Information Management **OR** CSCI 360 Operating Systems

II. Required Courses in Cybersecurity (20 credits)

CSCI 255 Introduction to Cybersecurity
CSCI 250 Web Application Development
CSCI 270 Cybersecurity: Philosophy and Ethics
CSCI 350 Networks and Security
CSCI 352 Secure Code Analysis
CSCI 405 System Vulnerability and Security (Capstone and Writing in the Major)

III. Elective Courses – (12 credits)

BST 310 Management
BST 344 Organizational Ethics
CSCI 370 Algorithms and Computability
CSCI 357 Cryptography
CSCI 340 Software Engineering
CSCI 345 Mobile Application Development
CSCI 352 Secure Code Analysis
CSCI 230 Data Structures
CSCI 330 Databases
CSCI 360 Operating Systems
DATA 200 Data Science: Introduction, History, and Case Studies
ECON 242 International Business
MATH 117 Introduction to Statistics
MATH 220 Discrete Mathematics
PHIL 104 Introduction to Ethics
PHIL 304 Ethics and Society
PSCI 104 International Relations
PSCI 247 International Security

PSCI 363 The National Security Council
 REL 214 Business Ethics
 STAT 240 Statistical Machine Learning

c. Provide a mapping of all curricular elements to the programmatic SLOs.

E = Emerging, D = Developing, M = Mastering

Course	Identify the appropriate cryptographic algorithms and protocols for a given situation	Implement secure software	Assess the vulnerability of software and hardware	Evaluate the usability of a security solution	Evaluate the social, philosophical, ethical, and legal dimensions of cybersecurity.
CSCI 250 Web Application Development		E/D	E		
CSCI 255 Introduction to Cybersecurity	E	E	E	E	E
CSCI 260 Computer Systems and Architecture			E		
CSCI 270 Cybersecurity: Philosophy and Ethics					D/M
CSCI 350 Networks and Security	D		D	D	
CSCI 405 System Vulnerability	M	M	M	M	

and Security					
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These student learning outcomes will be assessed in two classes.

In CSCI 405, we will assess outcomes numbers 1 – 4. In that class, as a capstone project, student will take sample web applications, assess their vulnerabilities and rewrite the code to be as secure as possible. This revised code will be used to assess student learning outcome numbers 1 – 4.

In CSCI 270, we will assess outcome number 5. In that class, students engage with the social, philosophical, ethical, and technical dimensions of cybersecurity and data privacy through case studies, culminating in designing a security policy for real-world application. Students consider different laws and regulations on data collection, privacy protection, data storage and usage in their final policy design. This policy design will be used to assess student learning outcome number 5.

In both cases, we will use rubrics to evaluate student success with our learning outcomes.

- d. *Provide a table showing a course-by-course comparison with similar programs at other institution. Please use Peer, Aspirant and Competitor school if possible.*

We were not able to find any other programs nationally like ours, but we have gathered information about a few other programs for comparison. These programs are more technical and IT focused, so our program is innovative. Ours has more of a principles focus instead of a tools focus, so our graduates should be able to adapt more easily as the technology evolves. Students who take the electives with the software emphasis have the added benefit of a programming focus. Our program is also more flexible and can accommodate a variety of sub-interests.

The number of schools offering undergraduate degrees in cybersecurity is small, and the majority of programs are more technical than ours.

Drew	Mercy College	Rider University (technical track)	University of Richmond	Charter Oak	Fairleigh Dickinson
Core Computer Science					
Intro programming	Foundations of Computing	Computer Science I	Computer Programming in Java	Intro to Computer Science	Introduction to Computer Programming/Introduction to Computer Science
151 Object-	Object/Structur	Computer Science II	Computer		

oriented programming	e/ Algorithm (elective)		Programming in Java?		
230 Data Structures	Object/Structure/ Algorithm (elective)	Data Structures and Algorithms			Data Structures
260 Intro to Computer Systems and Architecture	Computer Architecture (elective)				Computer Organization / Assembly Language Programming
330 or 360 (Database or Operating Systems)	Database Management Systems/ Operating Systems	Operating Systems and Cybersecurity	Database Design		
Core Cybersecurity					
255 Principles of cybersecurity	Intro to Cybersecurity	Cybersecurity Essentials	IT Security	Fundamentals of Info Systems Security	Cyber Security
270 Philosophy and Ethics of Cybersecurity		Cyber Ethics and Societal Impact			Ethics
250 Web Application Development				Security Strategies for Web Apps and Social Networking	
350 Networks and Security	Computer Network/ Network Security	Networking and Telecommunications	Local Area Networks	Networking/Data Communications, Fundamental of Network Security	Data communication & Computer Net/Network Security

355 System Vulnerability and Security (Capstone)	System Security/Penetration Testing and Ethical Hacking	Hacking and Penetration Testing	Introduction to Ethical Hacking & Pen Testing	Hacker Techniques, Tools and Incident Handling/Capstone	
Software emphasis electives					
352 Secure Code Analysis					
340 Software Engineering					Software Design
345 Mobile Application Development					
System and Network emphasis electives					
360 Operating System	Operating Systems	Operating Systems and Cybersecurity			Operating Systems
330 Database and Information System	Database Management Systems		Database Design		Database Systems(optional)
357 Cryptology	Cryptography/Computer Security				Introduction to Cryptography
220 Discrete Mathematics	Discrete Structures	CS elective	Focus course*		Discrete Structures
Society and Ethics emphasis					
BST 344 Organizational Ethics					
MCOM xxx Privacy Theory					
DATA 200 Data Science: Introduction, History, and Case Studies					

Business emphasis					
BST 310 Management			Managing Business Processes		
ECON 242 International Business					
BST 344 Organizational Ethics					
International & Homeland Security					
PSCI 247 International Security					
PSCI 104 International Relations					
PSCI 363 The National Security Council					
Other cybersecurity courses offered by peer institutes (as a reference for future development, grouped according to categories)					
		Cybercrime and Cyberterrorism	Cyber Law	Legal Issues in Info Security	Ethics; Crime and Criminology
		IT Fundamentals	IT Security		
		Software Security Engineering			
	Secure and Intelligent Programming	Developing and Deploying Cybersecurity Programs			
		Analysis of Algorithms			

		Policy elective	Security Planning and Risk Management	Managing Risk	
			Leadership		
			Applied Ethics		
			Applied Statistics		
				Access Control, Authentication, PKI	
				Auditing IT Infrastructure	
	Forensics/Electronic Discovery		Digital Forensics	Systems Forensics, Investigation	
				Security Policies	
				Hacker Techniques	
	Linux Administration			Security Strategies in OS/Applications	

Additional Carnegie-classified Arts & Sciences institutions offering majors in cyber security:

- Penn State - Berks major in [Cybersecurity Analytics and Operations](#) B.S. is 99 credits and therefore not comparable.
- Air Force Academy major in [Cyber Science](#).

Provide an explanation for major differences between proposed curriculum and comparison institutions.

Our program is interdisciplinary with more of a focus on underlying principles and practical applications and less of a focus on current tools used for cybersecurity, tools that can quickly become outdated. So, we have more of a principle emphasis and spend more time on communication, teamwork, and ethical considerations. The comparison schools have more of an

Information Technology approach and the courses are less integrated. They offer some topics that we don't and vice versa because of these different emphases. Ours is also more flexible with electives that accommodate a variety of student interests. The program at the University of Richmond appears to be more of a continuing education focus than an undergraduate curriculum.

- e. Provide a complete term-by-term, 3-year projection of courses and other offerings. Be specific. Include course titles and faculty names, and indicate where new courses or hires are proposed.

Tentative Schedule of Offerings:

Year	Fall (12)	Spring (12)
CS Annually	Every Fall 150: Intro to Computer Science in Python * 2 151: Object Oriented Programming in Java 220: Discrete Mathematics 250: Web Application Development (+151/230) 260: Intro to Computer Systems & Architecture 340: Software Engineering	Every Spring 149/150: Intro to CS in JavaScript/Python * 2 151: Object Oriented Programming in Java 230: Data Structures 330: Databases & Information Management 370: Algorithm Analysis & Computability 390/400: CS Capstone
AY Odd - Even	Fall Odd 290/390: Elective 290/390: Elective (345 Mobile)	Spring Even 290/390: Elective 290/390: Elective (335 Functional Programming)
AY Even - Odd	Fall Even 290/390: Elective (345 Mobile) 290/390: Elective	Spring Odd 290/390: Elective 360: Operating Systems
Cyber Annually	Every Fall <u>270</u> : Cybersecurity: Philosophy & Ethics <u>350</u> : Networks & Security	Every Spring <u>255</u> : Principles of Cybersecurity <u>405</u> : System Vulnerability & Security (Capstone)
AY Odd - Even	Fall Odd	Spring Even <u>352</u> : Secure Code Analysis
AY Even - Odd	Fall Even	Spring Odd <u>357</u> : Cryptography

Typical Instructors for the cyber courses
CSCI 250 Web Application Development Emily Hill
CSCI 255 Principles of Cybersecurity Ziyuan Meng
CSCI 260 Computer Systems and Architecture Steve Kass
CSCI 270 Cybersecurity: Philosophy and Ethics Ziyuan Meng
CSCI 350 Networks and Security Ziyuan Meng
CSCI 352 Secure Code Analysis Tiago Perez
CSCI 405 System Vulnerability and Security Ziyuan Meng

The addition of new courses to the computer science curriculum is made possible by Tiago Perez's faculty line approved by Dean's Council in AY 2019-20. We do not need additional staffing over current levels.

f. Course Descriptions: *Attach complete course proposal forms for each new or revised course included in the major/program. If there are more than 6 new or revised courses, you may compile this information in a single spreadsheet - contact the Associate Dean of Curriculum for more information. List all new/revised courses below:*

Please explain how any new courses will be staffed. Do they require additional staffing either to directly offer the course or replace? Will currently offered courses be cut or taught less often?

Proposals for CSCI 270 and CSCI 352 are attached as an appendix. Neither of these courses require additional staffing.

4. Describe the impact on and connection with other departments and programs:

Does the proposed major/program offer possibilities for interdisciplinary collaboration? Will the proposed major depend on courses from other departments? Will the proposed major offer courses that might be cross-listed by other departments? Will the proposed major have a significant impact on enrollments in other departments/programs?

Students may choose three electives from among other departments:

BST 310 Management
BST 344 Organizational Ethics
ECON 242 International Business
PHIL 104 Introduction to Ethics
PHIL 304 Ethics and Society
PSCI 104 International Relations
PSCI 247 International Security
PSCI 363 The National Security Council

We have had conversations with the chairs of Business, Political Science, Philosophy, and Media and Communication. They have all let us know which courses from their departments would be appropriate electives. Because we are anticipating that cybersecurity may be a popular major, there could be significant impact on enrollments in total, but we are hoping that because there are so many options that no course will be overwhelmed. Elective options also include courses in our own department and we anticipate that these will have broad appeal as well.

We think that the new course CSCI 270 Cybersecurity: Philosophy will have wide appeal as it is Writing Intensive and Breadth Interdisciplinary with no prerequisites. It will add to the WI options for our STEM students and we hope that it will have wide appeal.

5. Program-specific admissions requirements including degrees, test scores, specific courses, etc. (for CSGS & THEO Programs):

None.

6. Provide the names of any relevant certifying or disciplinary/interdisciplinary organizations, along with links to relevant information from them.

Please explain how the proposed curriculum relates to recommendations and learning outcomes provided by relevant external organizations and, if possible, include references to supporting documents.

Very technical cybersecurity programs can be certified by the National Security Agency by designating Centers of Academic Excellence in Cyber Operations, Fundamental and Advanced. However, Drew's focus is on building an interdisciplinary program to support growing needs surrounding the technical aspects. Therefore, our curriculum is not aligned with the complete set of "knowledge units" required for NSA certification.

NEW MAJOR/PROGRAM ANALYSIS

STUDENT INTEREST AND PROGRAM FINANCES

7. Explain how the major / program meets the strategic goals of the university and the school.

Student enrollments in our cybersecurity courses have demonstrated interest in this program.

8. Describe and comment on the expected market for major / program. Include evidence of market demand from national, state, local, disciplinary or other sources (e.g., IPEDS, BLS).

Job Outlooks from the Bureau of Labor Statistics:

	Software Developers	Computer Program.	Network Architects
2018 Median Pay	\$105,590	\$84,280	\$109,020
Typical Entry-Level Education	Bachelor's	Bachelor's	Bachelor's
Number of Jobs, 2018	1,365,500	250,300	159,300
Change, 2018-2028	284,100	-17,900	8,400
Job Outlook, 2018-2028	21% (much faster)	-7% (decline)	4% (average)
	Info Security Analyst	Database Admin.	Network Admin.
2018 Median Pay	\$98,350	\$90,070	\$82,050
Entry-Level Education	Bachelor's	Bachelor's	Bachelor's
Number of Jobs, 2018	112,300	116,900	383,900
Change, 2018-2028	35,500	10,500	18,200
Job Outlook, 2018-2028	32% (much faster)	9% (faster than ave)	5% (average)

Key findings from a Burning Glass report, *The State of Cybersecurity Hiring*, June 2019:

- The number of cybersecurity job postings has grown 94% since 2013, compared to only 30% for IT positions overall. That's over three times faster than the overall IT market.
- Cybersecurity jobs account for 13% of all information technology jobs. On average, however, cybersecurity jobs take 20% longer to fill than other IT jobs, and they pay 16% more. That works out to a salary premium of \$12,700 per year.
- For each cybersecurity opening, there was a pool of only 2.3 employed cybersecurity workers for employers to recruit. That is almost exactly the same ratio of openings-to-employed workers as in 2015-16. By comparison, there are 5.8 employed workers per job opening across the economy in general. Even with the expansion of cybersecurity programs, supply has not kept up with demand.
- The industry is increasingly turning to automation for solutions. Demand for automation skills in cybersecurity roles has risen 255% since 2013 and demand for risk management rose 133%.
- Public cloud security (170%) and knowledge of the Internet of Things (140%) are projected to be the fastest-growing skills in cybersecurity over the next five years.

We also looked at job openings to make sure that students with a liberal arts based curriculum would be qualified for jobs in cybersecurity. We found several viable options, some of which are listed below. Many require U.S. citizenship

Potential Jobs Independent of Emphasis

Job Example #1 - Cyber Mitigations Engineer/System Vulnerability Analyst – Entry Level

National Security Agency

Fort Meade, MD

Salary Range: \$72,351 - \$90,157 (Entry/Developmental)

Entry is with a Bachelor's degree and no experience. Degree must be in Computer Science or a related field (e.g., General Engineering, Computer Engineering, Electrical Engineering, Systems Engineering, Mathematics, Computer Forensics, Cyber Security, Information Technology, Information Assurance, and Information Security). Relevant experience must be in computer or information systems design/development, programming, information/cyber/network security, vulnerability analysis, penetration testing, computer forensics, information assurance, and/or systems engineering.

JOBS That Are Appropriate Depending on Emphasis

Job Example #2: Analysis Engineer - Symbolic Execution (software security emphasis)

ForAllSecure, Palo Alto, CA

Analysis Engineer - Symbolic Execution

What you'll bring

- A passion for building innovative and easy-to-use tools for finding bugs, improving code quality and security, and enhancing the debugging experience
- Patient, user-focused decision-making
- Proficiency in C/C++, OCaml, X86, ARM, Python
- Passion for systems-level programming in Linux and security
- Experience with program analysis, binary analysis, or fuzzing
- Knowledge of common compiler concepts: types, code generation, register allocation, stack frames, inlining, and control flow graphs
- Knowledge of binary execution formats, linkers, loaders, interpreters, and libraries
- Knowledge of Low-level operating system concepts (memory management, process lifecycle, I/O systems, etc.)

What you'll do

- Collaborate with teammates both local and remote, through pull requests, in-person conversations, and Slack
- Develop new features, fix interesting bugs, write tests, and review your teammates' code

- Collaborate with support engineers and customers to improve the security and quality of software in their ecosystem
- Build expertise and responsibility for specific components of Mayhem ecosystem
- Desire and ability to work in a fast-paced, global results orientated environment
- Superior oral and written communication skills, with innate attention to detail

Job Example #3 - Engineer - OS/Network Applications Security (Entry Level, Software/System Security Emphasis)

Lockheed Martin
Cherry Hill ,NJ

Qualifications:

B.S. degree in technical disciplines such as Computer Science, Computer Engineering, Electrical Engineering, Computer Security, or Information Technology - or equivalent applied experience.

Applicants must have skills in:

- SW development (i.e. C, C++, Python) on Windows, Linux, macOS, android, or iOS
- Debugging (e.g gdb, windbg, OllyDbg, Valgrind)
- SW development collaboration tools (e.g. mercurial, git, Atlassian, wiki's)
- Rapid prototyping
- Adaptability and self-motivation
- Ability to obtain Top-Secret Clearance

Selected applicants will be subject to a government security investigation and must meet and maintain eligibility requirements for access to classified information.

Strong candidates will be self-motivated, capable of performing well-defined applied research tasks, developing software modules, have a basic understand of contemporary malware and defensive tools (PSPs, IDS, Firewalls, etc), have the ability to author technical contributions to proposals, present results and demonstrate prototypes to teammates and customers.

Desired Skills (one or more):

- User space and kernel space development
- Networking protocols
- Compiler Design and Implementation
- IDS and PSP Design and Implementation
- Software Reverse Engineering tools (e.g. OllyDbg, IDAPro)
- Vulnerability Analysis
- Program Analysis

- Machine-learning/Artificial Intelligence/Autonomy
- Cyber/IO/CNO R&D
- Embedded systems development (e.g. MIPS, powerpc, etc.)
- Self-directed technical research explorations

Job Example #4 (non-technical track internship)

Cyber Security Technical Writer, Intern

K logix

Brookline, MA 02446

Internship

The Cybersecurity Technical Writer, Intern's primary responsibility consists of providing K logix with refining and/or creating consistent, defined technical consulting collateral. The Intern must possess the ability to deliver results in a fast-paced environment. This role has potential opportunities to shadow existing members of the Information Security Services and Marketing teams in order better understand the Cyber Security landscape.

You Will Need To...

- Review and update K logix's library of Cyber Security Technical Documentation.
- Quickly grasp complex technical concepts and make them easily understandable in text and graphics.
- Adhere and contribute to established documentation standards and styles.
- Contribute to continuous improvement of documentation and company quality standards. Ensure integrity and consistency of all collateral
- Transition between multiple projects and adhere to deadlines.
- Perform various other duties and activities as assigned by supervisor.

You Should Have...

- Strong attention to detail and be self-directed with a can-do attitude.
- **Solid written and verbal communication skills.**
- Exceptional proofreading skills, command of English language grammar and familiarity with style guides.
- **Knowledge of technical concepts specifically Information Security, Cyber Security and/or Information Technology**
- Skilled in Microsoft Office (PowerPoint, Word and Excel), including familiarity with using styles, templates, formulas, etc.
- Knowledge of Adobe Creative Suite a plus

Education...

- **Pursuing a degree (and/or minor) in: Cyber Security**, Technical Communications, Information Systems Management / MIS, English, or other course of study with a writing-intensive component, specifically with a STEM emphasis.

Job Example #5 (technical/non-technical track full time)

Cyber Battle Lab: Technical Writer

IDS International

Augusta, GA

Responsibilities:

- Conduct quality control checks to ensure compliance with Army and DoD regulations, processes, manuals, pamphlets, memoranda, guidelines, and specifications.
- Maintain a comprehensive library of technical and process documentation.
- Write, edit, and proofread technical documents, plans, reports, schedules, papers, and Microsoft Power Point presentations.
- Organize and lead peer reviews and work with engineers to ensure documentation is developed and approved in accordance with project schedules.

Qualifications:

- **Have a Bachelors degree in a related technical discipline from an accredited college or university.**
- Possess the ability to work effectively within a collaborative writing environment
- Have the ability to effectively describe technically complex material to a non-technical audience.
- Excellent oral and written communication skills and must be proficient in Microsoft Word, Excel, and Outlook.
- Experience in technical writing in addition to project coordination and/or project scheduling.
- Obtain and maintain a Top Secret security clearance with SCI eligibility.

9. For graduate programs, list at least five similar programs at other institutions, including ones expected to be direct competitors. Provide the program titles, degree(s) offered, short descriptions (from the program's information), tuition, and enrollments. Explain how Drew's program will be competitive with these similar programs.

Please contact Associate Dean of Curriculum for assistance.

Not applicable.

10. Enter expected annual enrollment in program (e.g., new students per year):

Please contact Associate Dean of Curriculum for assistance. Describe methodology to estimate enrollment numbers.

Year	Majors	Graduates
2021 - 2022	10	0
2022 - 2023	15	0
2023 - 2024	20	10
2024 - 2025	25	15

We are extrapolating from enrollments in CSCI 255 3 in FA21 (but the class was added after registration) and 26 in SP21; CSCI 350 25 in SP21 and 29 in SP20; and CSCI 357 10 in SP21. In SP20 we taught CSCI 390 as a topics course in zero day vulnerabilities and it enrolled 17 students.

11. Anticipated start-up and annual program costs. Include list of all new required staffing resources (e.g., full-time faculty, adjuncts, staff, library support services). Estimate annual budget for program support, library and technology resources (please contact the Director of Library for assistance), laboratory and/or equipment maintenance, marketing and recruiting, etc.

Please contact Associate Dean of Curriculum for assistance.

Item/Description	Year 1	Year 2	Year 3

We can teach the courses in this proposal at current staffing levels.

When Ziyuan Meng taught CSCI 390 as Zero-Day Vulnerabilities, he obtained a grant to cover the approximately \$1,000 cost for the cloud-based cybersecurity training environment: *avatao* for CSCI

390. That course is being regularized as our capstone, CSCI 405 Software Security and Vulnerability, but he has since found other free alternatives and we no longer need to purchase the training environment.

The students would make use of the same server as our other computer science students use, so there would not be additional costs there.

We will need to purchase a cloud-based collection of cybersecurity labs: *seedlab* cost \$0.25 for each user, possibly for several courses in the curriculum (260, 350, 357, 405).

https://seedsecuritylabs.org/Labs_20.04/

We cannot think of any additional costs associated with this program.

APPENDIX

Course Proposals for CSCI 270 and CSCI 352 and Writing Intensive and Breadth Interdisciplinary Proposals for CSCI 270.

For Information:

New Courses:

CE 270/Innovation Action Lab

Students will engage in creative problem solving applied to analyzing and developing a strategy to address a real-world problem that has social impact, is economically viable, and environmentally sustainable. This course will ask students to act, think and collaborate across disciplines by drawing from the arts, humanities, as well as social and natural sciences in formulating potential solutions. Students will connect with activists,, entrepreneurs, and other stakeholders outside of the university setting as appropriate to their project. Admission to this class requires submission of a project proposal and enrollment of at least two students committed to the project. Permission of instructor required.

CSCI 270/Philosophy and Ethics of Cybersecurity

This course introduces students to the social and ethical dimensions of cybersecurity in the broader context of western intellectual history. Students explore how cyber-attacks reveal the limitations of current computational models as well as ethical issues related to data privacy and the relationship between individuals and social institutions. Students will engage with the social, philosophical, ethical, and technical dimensions of cybersecurity & data privacy through case studies, culminating in designing a security policy for a real-world application. Students will consider

different laws and regulations on data collection, privacy protection, data storage and usage in their final policy design.

Offered every Fall. CLA-Breadth/Interdisciplinary, CLA-Writing Intensive

CSCI 352/Secure Code Analysis

An extensive study of the principles and practice of program security auditing and automated analysis. A course project is included to practice secure software development, security auditing and verification. Prerequisite: CSCI 260 with a grade of C- or better. Offered every other year.

Changes to Existing Major/Minor:

- **Chemistry BA (for vote at April faculty meeting)**

I. Rationale

What is the rationale for the department's proposal to revise the major at this time? Is there assessment data to support the revision? Are the revisions a response to an external review of the department? How do the revisions relate to the objectives articulated in your five-year plan? Are there external benchmarks for the major such as national association standards or comparable programs at our comparison or peer institutions which are being used in the revision?

The Chemistry Department is seeking to decrease the size of the BA Chemistry major so that students interested majoring in chemistry, but pursuing professional degrees after Drew, such as engineering programs (especially the 3/2 combined degree programs), health professions, and secondary education, have room in their schedules for (1) the Chemistry major, (2) the required courses for professional programs, and (3) the ability to fulfill the liberal arts education provided by the college. Currently students have been able to meet these requirements but it requires careful planning, luck with avoiding conflicts, and often overloaded semesters and/or Summer courses. We are seeking to reduce this burden for students while still ensuring students will be able to meet the program's learning goals.

This major already falls outside the recommendations of the American Chemical Society (which is encompassed in the BS majors) and therefore these recommendations do not apply. We examined Chemistry majors at several peer institutions and found that our major was within, but at the high end, of the number of chemistry courses required by peer institution majors. We feel we can replace two required courses with a single laboratory elective, and maintain the integrity of the major in addressing our learning objectives, while still allowing students to pursue courses that best fit their professional goals.

Examining the major at peer institutions makes clear that reducing the mathematics requirement from two semesters of Calculus to a single semester of accelerated Calculus (MATH 201) puts the Drew Chemistry major outside the requirements of the large majority of these institutions. However, we believe MATH 201 will provide students with the necessary background to complete the required Chemistry courses, most notably Physical Chemistry. We would also note the Skidmore College only requires the first semester of a two semester Calculus sequence for their Chemistry major.

II. Learning Objectives

How has the department defined its learning objectives? How do the major revisions address these objectives and more fully implement them?

1. Students will be able to describe and apply the core principles and vocabulary of chemistry, including the symbolic and representational language of chemical systems.
2. Students will be able to use chemicals, laboratory equipment, and instrumentation in a safe and effective manner to follow a protocol and collect experimental data.
3. Students will be able to interpret data to draw conclusions about chemical systems.
4. Students will be able to locate, read, analyze and discuss primary chemistry literature.
5. Students will be able to communicate chemical research in written form to an expert audience using the norms of the discipline.
6. Students will be able to orally communicate chemical research to a knowledgeable, but non-expert audience using the norms of the discipline.

As indicated above, the proposed changes reduce the size of the major. However, we believe requiring 2 introductory, 1 intermediate, and 6 upper level Chemistry courses, all with an associated laboratory, will still provide students with the necessary practice and development in the learning goals.

III. Proposed Changes to the Curriculum

- a. Explain each proposed change to the major individually;
- b. Provide comparison between new major and old major;
- c. Provide complete revised catalogue copy for the new major exactly as you wish it to appear in the next catalogue and in the on-line catalogue.

Change #1: The current major requires students to take both Advanced Analytical Chemistry (CHEM 321) and Foundations of Biochemistry (CHEM 360). We will remove these courses from the required list, and instead have students one upper level laboratory elective from: CHEM 321, CHEM 360, Environmental Chemistry (CHEM 325), and Advanced Organic Chemistry. This change reduces the size of the major by one course while allowing students interested in the physical sciences to take a course that focuses on instrumentation and analysis while students interested in the health professions can take Foundations in Biochemistry, which is a required course for many health professions programs.

Change #2: The current major requires students to take Calculus and Analytic Geometry I (MATH 150), and Calculus and Analytic Geometry II (MATH 151). The new major will give students the choice of completing this two semester sequence or taking the single course, Topics in Multivariate Calculus (MATH 200). Students interested in pursuing engineering programs, as well as other students interested in taking the University Physics sequence will still need to take the two semester calculus sequence. This fact will be noted in the catalogue copy (see below) and through advising.

Catalogue Copy:

Requirements for the Major (58-59 50-54 credits)

Chemistry Core

CHEM 150 - Principles of Chemistry I

OR

CHEM 151 - Principles of Chemistry I, Advanced Section

CHEM 160 - Principles of Chemistry II

OR

CHEM 161 - Principles of Chemistry II, Advanced Section

CHEM 250 – Organic Chemistry I

CHEM 320 - Fundamentals of Analytical Chemistry

CHEM 321 – Advanced Analytical Chemistry

CHEM 330 – Physical Chemistry I

CHEM 340 - Intermediate Inorganic Chemistry

CHEM 342 - Laboratory in Advanced Inorganic Chemistry

CHEM 350 – Organic Chemistry II

CHEM 360 – Foundations in Biochemistry

CHEM 395 - Research in Chemistry

OR

CHEM 410 - Specialized Honors I

CHEM 400 - Senior Seminar (Capstone)

Laboratory Elective

CHEM 321 - Advanced Analytical Chemistry

CHEM 325 - Environmental Chemistry

CHEM 351 - Advanced Organic Chemistry

CHEM 360 - Foundations in Biochemistry

Mathematics Requirement

MATH 150 - Calculus and Analytic Geometry I **AND**

MATH 151 - Calculus and Analytic Geometry II

OR

MATH 200 – Topics in Multivariate Calculus*

*Note: Students interested in Engineering programs or who wish to complete the University Physics sequence below must take MATH 150 and MATH 151

Physics Requirement

PHYS 111 - Introductory Physics I

OR

PHYS 150 - University Physics I

PHYS 112 - Introductory Physics II

OR

PHYS 160 - University Physics II

Note

Students with AP, IB, or A-level credit may qualify for course equivalency or an exemption from CHEM 150/151 or CHEM 150/151 and 160/161. Such students should consult with the department

chair. Students receiving an exemption but not credit equivalency can complete the major with 4 to 8 fewer total credits.

IV. Impact on Other Departments

How will other departments be affected by the revision of this major? Will the proposed major depend on courses from other departments? Will the proposed major offer courses that might be cross-listed by other departments? Will the proposed major have a significant impact on enrollments in other departments/programs? Have you consulted with these departments and worked with them to ensure that their programs will not be adversely affected by this major revision? Does the proposed major offer increased possibilities for interdisciplinary collaboration?

Changing the mathematics requirement will likely have some impact on the enrollments for MATH 150, MATH 151, and MATH 200. Additionally, student ability to meet the requirement through MATH 200 will depend on the course being offered. The Mathematics and Computer Science Department asked us to consider if MATH 200 would be appropriate for the major and supports the change. Additionally, students will always be able to complete the major by taking MATH 150 and MATH 151, which are both regularly offered each semester.

V. Transition Plan

Provide a detailed transition plan indicating how juniors and seniors enrolled in the current major will be able to complete the requirements for the current major.

Because the changes represent a decrease in requirements, all current majors will be able to complete the major more easily as a result of these changes. At least one of the possible laboratory electives will be offered each semester, as will MATH 150 and MATH 151.

VI. Revision of Minor

Outline any changes to minor requirements necessitated by the revision of the major.

No revisions to the minor are necessitated by these changes.



LAUNCH UPDATES - March, 2021

Survey Reminder: Building AY21-22 Launch Communities programs to meet your needs

You are still on time to help us plan next year's programming for the Launch Communities. We are very interested in tapping into your ideas and needs so that we can best support your work at Drew. Partnering in this way will ensure our responsiveness to students' and your needs or opportunities. Please take a few minutes to complete the [survey](#) if you have not had the chance to do so yet.

Launch Preliminary Outcomes

1. Completion of a mostly **FY Launch guiding course** and a **Senior Launch Intensive** by 450 students (approximately 330 additional students this spring for a total of over **750 students**):
 - Creation/presentation of a Launch e-portfolio to alums and faculty
 - Identification/articulation of transferable skills, purpose, and community/world needs
 - Research, prioritization and articulation of aligning academic, career or service paths
 - Meaning-making synthesis/evidence of immersive experiences, interaction with mentors, and engagement in Communities
 - Identification of experiences and training to prepare for specific career or service paths
2. Based on preliminary data, over **550 students** are expected to complete **Immersive Experiences** by the end of the fall semester, including the infrastructural development of 5 types of IEs:
 - Off and Internships
 - Domestic/international TRECs
 - Community-based learning
 - Student leadership, peer mentoring
 - Student research
3. Approximately **800 mentor participation instances** in Launch programming:
 - 350 targeted mentors rotate through the 18 Launch Community pages
 - 125+ on/off-campus community members participated in student Launch e-portfolio presentations (125+ more expected to participate this spring for a total of approximately **250 mentors**)
 - 200+ on/off-campus community members joined the Launch Communities Panel Series, the Launch Expo Communities Fair or the Launch Networking Event
4. Development of integrated, curated website (**Launchpad**: launch.drew.edu):
 - Development of integrated/curated web pages for each of 10 Career Communities and 8 Identity/Affinity Communities
 - Development of Launchpad's integrated Immersive Experiences page, Mentors page, and Employer/Jobs page
 - **4,681 alert subscribers, 42% open rate** (over double 19% industry avg.)

UNIVERSITY LIBRARIAN'S REPORT

For CLA Meeting of March 26, 2021

Your colleagues in the library, archives, and instructional technology continue to support both on-campus and remote teaching and learning during the spring semester. Watch the [Library Services in DVT page](#) for updates.

Printing Service for On-Campus Students. As noted in *Drew Today* and *Drew This Week*, the University Library and University Technology are now providing a networked printing solution for on-campus students. Up-to-date instructions and access information is available on U-Know at <https://uknow.drew.edu/confluence/display/Library/Printing+in+the+Library>. Please keep in mind that most assignments should still be collected electronically.

LIBRARY SERVICES

- **Interlibrary Loan (ILL) Update:** We continue to prioritize borrowing ebooks, but are once again offering physical lending on a limited scale. If you are interested in borrowing physical items, please review the following information:
 1. We will only request a physical book if you specify that physical loans are acceptable in the notes field of the ILL Book Request form.
 2. We will always try to acquire the ebook before the physical book.
 3. Due to a book quarantine period, limited lenders and staffing, plan for longer turnaround times.
 4. We may limit the number of loans that we will request per patron per week.
- **Building Access:** To comply with COVID protocols, access to the main library building will be limited for Spring 2021. Hours of operation are M-Th between 9AM-8PM and Fridays from 9AM-5PM. A Drew ID is required.
- **Information Access and Consultations:** Remote access to library services and information resources remains available for faculty and students working from a distance as well as on campus. These services include but are not limited to consultations (email, chat, Zoom), remote office hours for drop-in research help (Zoom), and help identifying and acquiring digital resources (articles, e-books, films, Open Educational Resources, open access collections, etc.).
- **Contact-Free Checkout:** For Drew-owned materials not already available in digital form, the library will continue to offer scans or retrieval of items from the stacks for [contact-free pickup by appointment](#). (bitly.com/drewbookrequest)
- **Study Tables by Appointment:** A limited number of main floor tables are now available for Drew on-campus and commuter students to reserve for individual study. For availability and booking, visit drew.mywconline.com and select the schedule called "Library Study Tables – Spring 2021." Instructions and policies are outlined on the WCOonline reservation page and include an agreement to adhere to all campus health and safety protocols – check in with LiveSafe, maintain physical distance, wear a face covering (mask) at all times, bring their own computer devices, and clean work surfaces with sanitizing wipes (provided) before and after use. Study tables are in open areas, so students are requested to use headphones if connecting to a remote class or watching a video.
- The **Archives** building remains closed, with all services delivered remotely, including scanning and remote consultations.

(continued)

Contacts for Spring: Refer to the [Ask A Librarian page](#) for current points of contact:

- Margery Ashmun: Sciences, Public Health and Education
- Matthew Beland: University Archives, History
- Andrew Bonamici: Launch, Media and Communications
- Guy Dobson: Computer Science, Math, Music
- Kathy Juliano: Library databases and media; general reference
- Jesse Mann: Theology, Classical Studies, Philosophy, Romance Languages, and Medieval Studies
- Irina Radeva: Anthropology, Business, Economics, International Relations, Performing Arts, Political Science, Psychology, Sociology
- Danielle Reay: Art, Art History, Digital Humanities
- Candace Reilly: Special Collections, Methodist Collections

For research help on other subjects, please enter your research needs into the form [HERE](#) and a librarian will respond to your request. You may also email the Research Help Desk at reference@drew.edu with questions or concerns.

Library Reserves: To support remote as well as on-campus students with access to course materials, all reserves for Spring 2021 are digital. This also aligns with COVID-19 protocols and guidance on handling and quarantine of physical materials. Should the protocols change, we will notify you. We ask faculty to provide the library with the following:

1. Use the [book purchase request form](#) to request eBook equivalents of any print books you would normally put on reserve. Indicate on the form that the book is being used by an entire class.
2. Alternatively, [request scans](#) of particular chapters of a library book that you can place on Moodle.

Media and eBook Requests: For films and videos, please refer to the [Media Request page](#) for search tips and instructions for any additional Spring 2021 media requests.

For questions about reserves or scanning, contact Judy Ahlers, jahlers@drew.edu. For questions about media and eBooks, contact Kathy Juliano, kjuliano@drew.edu.

Collection Development: The Library encourages faculty to submit book purchase requests using this [form](#) or by contacting your subject Librarian or [Kathy Juliano](#). In keeping current policy, we are purchasing books only upon the recommendation of faculty. All book selections should be made to support the current and future curriculum. We have also implemented evidence-based and demand-driven e-book purchase programs, with e-books discoverable in the catalog and purchased based on actual usage. Contact your subject librarian or Kathy Juliano with any questions, or to arrange a time to visit with your department to review current resources and anticipated needs.

Books by Faculty and Alumni Authors: Please let us know of recent publications, and consider donating an extra copy for the permanent collection of faculty and alumni works in the University Archives.

INSTRUCTIONAL TECHNOLOGY

We recommend bookmarking the [Teaching Remotely](#) page for quick access to technology help resources and links.

Classroom Technology:

- If you're having any issues in your classroom while class is in session, please call **973-408-3001** (**x3001** from a campus phone) and our combination of staff and students will be there to help you work out any issues

- If you have suggestions for small changes to classrooms that can help create a better experience for everyone, we would appreciate you letting us know. Please email us at mrc@drew.edu with any questions or suggestions.
- Here is a [website](#) with videos and pictures of the equipment in each room. Please take a look at the entries for rooms where you are teaching.

Moodle Support: If you have any technology or Moodle related questions, please create a support ticket at help.drew.edu or email helpdesk@drew.edu

Zoom Updates: For security and to take advantage of current features, please keep your Zoom application updated to the newest version. The quickest way to do that is to go to <https://zoom.us/download> and click download.

Reminder about Zoom cloud storage: If you have been saving Zoom recordings to the cloud, please go to your recordings tab at drew.zoom.us and review what you can delete.

- Consider *deleting* (examples): recordings of regular meetings from completed Spring classes; recordings of routine departmental meetings with completed minutes
- Consider *downloading and storing locally or on Drive*: recordings or transcripts needed for ongoing work. Examples: audio and chat transcripts from a routine meeting; recordings of meetings or events that may have historic archival value, such as commencement events, guest lectures, or major campus announcements. (Note that many events are already available on the Drew YouTube channel: <https://www.youtube.com/drewuniversity>)
- Consider *keeping on Zoom*: recordings in active use that are linked from other websites. Examples: faculty development sessions linked from shared faculty Moodle pages.

Kaltura Media Repository: Per mention in earlier reports, we are acquiring the Kaltura media repository platform. Watch for updates, testing, and training opportunities as implementation proceeds. The system's many features include integrations with Zoom and Moodle, with Zoom cloud recordings automatically copied to the media repository and integrated in a Moodle course site without further action needed by the instructor. This streamlines faculty workflow and eases pressure on Zoom storage.

With all best wishes,

Andrew Bonamici, University Librarian
107 Library, x3322
abonamici@drew.edu

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E-Resource News

Go to <https://libguides.drew.edu/az.php> to access these resources, and contact your subject librarian or [Kathy Juliano](#) with questions and feedback.

New:

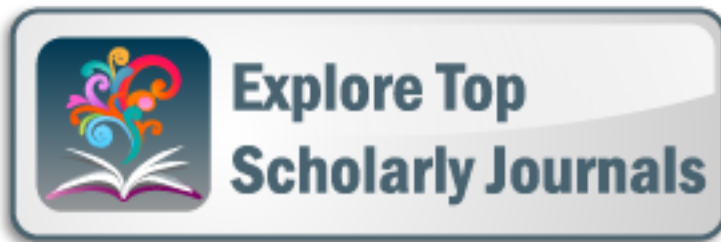
[Africa Knowledge Project](#)

Africa Knowledge Project, known as AKP, promotes Critical African Studies. It disseminates Africa-centered, evidence-based knowledge on Africa and African Diaspora. Includes subscriptions to the several journals, archives and databases



Trials:

[BrowZine](#)



This app allows you to browse, read and follow scholarly journals in a beautiful visual display.

With BrowZine, you can:

- Browse and read journals: Browse thousands of top journals by subject, easily review tables of contents, and download full articles.
- Stay Current with My Bookshelf: Create a personal bookshelf of titles to follow and receive new article notifications.

You'll see BrowZine on the Research Resources page, A-Z list, and in search results when you see this logo:



(continued)

[Drama Online](#)

This digital library has been created as a response to the need for a high-quality online research tool for drama and literature students, professors, and teachers. It combines play text content and scholarly publications with filmed live performances, film adaptations, and audio plays.



[LibKey](#)

This is an addition to several of our databases, and ScholarSearch. It enables easier access to full-text articles found through searches.

You will see this link when an article is available:



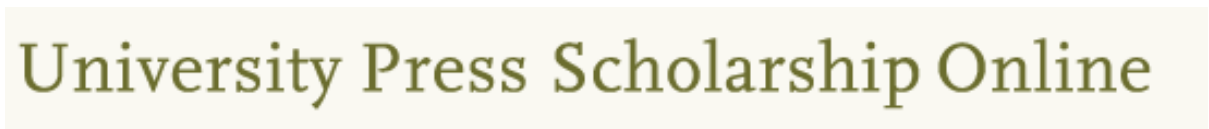
Or



[Oxford University Press Scholarship Online](#)

University Press Scholarship Online offers 35,000+ titles across 33 subject areas.

[View the complete title list](#)



[ProQuest Historical Newspapers: Black Newspaper Collection](#)

20th century coverage of 28 selected black newspapers in America



(continued)

JSTOR: We now have access to all [JSTOR Archive Collections](#), with full text of over 1,600 journals. Although most titles lack the last several years, holdings are very deep, with many journals running back more than a hundred years.

NYT Academic Pass: Please remind your students to take advantage of the [New York Times Academic Pass](#), an online subscription with full access to NYTimes.com, NYTimes mobile apps, and international editions. Individual registration and account activation is required for access - go to <https://libguides.drew.edu/newyorktimes> and follow the directions under How To Register.

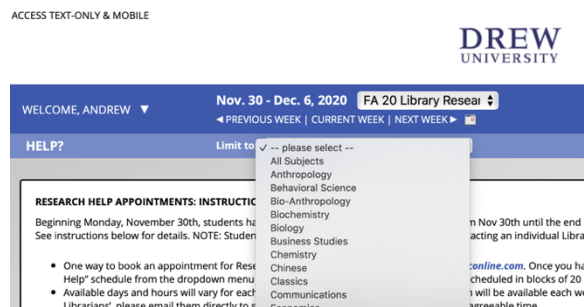
Open Access Videos

Check out [Open Access Video](#) sites on our [Media LibGuide](#).

PLEASE REMIND YOUR STUDENTS

Schedule Library Research Help and Study Tables through WOnline

RESEARCH HELP



In addition to Library CHAT and email, students may now use the CAE's [WOnline](#) scheduling system to reserve a Research Help session via Zoom. It's simple: log onto [WOnline](#) (you'll need to create an account if you don't have one), select **FA20 Research Help** from the drop-down menu, find a day and time that works for you, and reserve that time slot. Your schedule doesn't sync with the posted times? Email the Library at reference@drew.edu to find a time for Research Help "off schedule."

STUDY TABLES BY APPOINTMENT

A limited number of main floor tables are available for Drew on-campus and commuter students to reserve for individual study. For availability and booking, visit drew.mywconline.com and select the schedule called "**Library Study Tables – Spring 2021**." Instructions and policies are outlined on the WOnline reservation page and include an agreement to adhere to all campus health and safety protocols – check in with LiveSafe, maintain physical distance, wear a face covering (mask) at all times, bring their own computer devices (shared workstations and printers are currently offline), and clean work surfaces with sanitizing wipes (provided) before and after use. Study tables are in open areas, so students are requested to use headphones if connecting to a remote class or watching a video.