Arts & Sciences Faculty Meeting
January 25, 2019
HALL OF SCIENCES 4
AGENDA

CALL TO ORDER: 3:15 p.m.	Debra Liebowitz
APPROVAL OF MINUTES	Maria Masucci ------------------ pp. 4-8
DEAN'S UPDATES	Debra Liebowitz
ACTION ITEMS:	
Approval of Voting List	Maria Masucci ------------------ p. 9
Curricular Action Items:	
1) Performing Arts Administration minor	Rita Keane ---------------------- pp. 10-22
2) Engineering Physics major	Rita Keane ---------------------- pp. 22-33
3) Changes to Physics major	Rita Keane ---------------------- pp. 34-40
4) Changes to Biology major	Rita Keane ---------------------- pp. 40-47
5) Changes to Biochemistry & Molecular Biology major	Rita Keane ---------------------- pp. 47-48
6) Changes to Computer Science major	Rita Keane ---------------------- pp. 48-49
7) Academic Integrity policy	H. Kalagher/S. Morgan ------ pp. 49- 57
8) Academic Standing, revisions to Fac Regs	H. Kalagher/S. Morgan ------ pp. 57-58
REPORTS:	
Curricular Report	Rita Keane -------------------- pp. 10-67
Enrollment Management	Bob Massa -------------------- pp. 68-69
Advancement Report	Adam Wilhelm ------------- pp. 70-72
Library Report	Andrew Bonamici ----------- pp. 73-78
Registrar Information	Aimee Demarest
Committee Ballot	Maria Masucci
Career Center Interim Plan	Daniel Pascoe Aguilar
DISCUSSION:	
Immersive Experiences	Juliette Lantz
OLD BUSINESS/NEW BUSINESS:	
ANNOUNCEMENTS:	
Drew TEACH: Social Justice in the 21st Century Classroom	Kristen Turner -------------------- p. 79
The Drew Review	S. Morgan/H. Wells ------------- p. 80
ADJOURNMENT	

RECOGNITION OF DREW FACULTY ACHIEVEMENTS

Lee Arnold Art	**Lee Arnold** for the inclusion of his work in the group exhibition "Walking is a Way of Knowing", Brooklyn, New York, November 2 - December 17, 2018; and "Forcefields", the Art Gallery at SIGGRAPH Asia, Tokyo, Japan, from December 4 - 7, 2018. Also for a solo exhibition at the Tremaine Gallery at the Hotchkiss School in Lakeville, Connecticut from January 24 - February 24, 2019.
Alex Bajcz Biology and Environmental Studies and Sustainability	**Alex Bajcz** for publishing an article entitled "Underneath it All: Soil Differences May Explain Contrasting Outcomes of Adjacent Prairie Restorations in Madison, Wisconsin" with two colleagues (one, the lead author, an undergraduate) in the American Journal of Undergraduate Research.
Ed Baring History and History & Culture	**Edward Baring** for the invited paper, "Catholicism and the Making of 'Continental' Philosophy; or, the Husserl Archives in context," at the Husserl Archives 80th Anniversary Conference, Leuven, Beligum
Lisa Brenner Theatre Arts and Dance	**Lisa Brenner** for an interview with Mia Katigbak, Artistic Director of the National Asian American Theatre Company, as part of NYU's Festival of Voices (new works highlighting a diverse range of underrepresented artists) at the Burrows Theatre in NYC.
Chris Ceraso Theatre Arts and Dance	**Chris Ceraso** for a concert reading of his musical, *Houdini Among the Spirits*, presented by the Resonance Ensemble at New York's Sunlight Studios starring Tony nominee and Drama Desk winner, Robert Cuccioli.
Alex de Voogt Business, Psychology	**Alex de Voogt** for selection, with two co-authors, to receive the "2019 Jeanneret Award for Excellence in the Study of Individual and Group Assessment" by the Society for Industrial and Organizational Psychology for their paper published in Personnel Psychology in 2018.
Sandra Jamieson English	**Sandra Jamieson** for publication of her article "Shouldn't our expectations of students' and academics' intertextuality practices differ?" In *Student Plagiarism in Higher Education: Reflections on Teaching Practice*, Eds Diane Pecorari and Philip Shaw. Taylor & Francis/Routledge Research in Higher Education Series (co-published with the Society for Research into Higher Education), Abingdon, UK. 2018. 105-122.

Caitlin Killian Sociology	**Caitlin Killian** for the publication of a solicited article for *The Conversation* entitled "Why do Muslim women wear a hijab?" for World Hijab Day.
John Lenz Classics	**John Lenz** for publishing "Bertrand Russell and the Post-War Greek Left," with original translations, in the *Bulletin of the Russell Society* (Autumn 2018).
Yahya Madra Economics	**Yahya Madra** for publishing publishing "Crisis of Capitalism, Crisis of the Republic" in *Middle East Report* #288, Vol. 48, No. 3, Fall 2018, pp. 10-13. Also for publishing, with Sedat Yılmaz, "Turkey's Decline into (Civil) War Economy: From Neoliberal Populism to Corporate Nationalism" in *South Atlantic Quarterly*, Vol. 118, No.1, January 2019, pp. 41-60.
Patrick McGuinn Political Science and International Relations	**Patrick McGuinn** for being recognized by Education Week as one of the nation's leading Edu-Scholars in its annual public influence rankings of university-based researchers who shape public discourse around education policy.
Kimberly Rhodes Art History	**Kimberly Rhodes** for co-curating the exhibition "New York Semester on Contemporary Art: The First Decade, 1967-77" with Shayna Miller (C'19), on view in the United Methodist Archives building at Drew until March 15, 2019. Public opening reception at 5 pm on January 31, 2019.
Jonathan Rose History, History and Culture	**Jonathan Rose** for "Where is the History of Reading Now?", a paper presented at the third Cultural Transmission and Social Norms workshop, Massachusetts Institute of Technology (18 December).
Carol Ueland Russian	**Carol Ueland** for presenting a paper, " The Arrival of New Soviet Writers, The PEN Readings of 1987, and Joseph Brodsky" on the "Breakthrough Events in Soviet-Western Literary Relations in the 80's and 90's" panel and for chairing the panel "Writing Women's Lives: Biography, Gender, and Performance" at the ASEEES Convention, Dec. 6-9, 2018 in Boston.

Drew University
Minutes of Arts and Sciences Faculty Meeting
December 7, 2018

Present: Sarah Abramowitz, Christopher Andrews, Christopher Apelian, Carolina Arango-Vargas, Alex Bajcz, Edward Baring, Brianne Barker, Jeremy Blatter, Lisa Brenner, Barry Burd, Christopher J. Casement, Adam Cassano, Chris Ceraso, Jill Cermele, Miao Chi, Graham A. Cousens, Alex de Voogt, Patrick Dolan, Stephen Dunaway, Wyatt Evans, Christopher Fazen, Kimani Fowlin, Seth Harris, Emily Hill, Ryan Hinrichs, John Jordan, Lisa Jordan, Hilary Kalagher, Jason Karolak, Marguerite Keane, Caitlin Killian, Roger Knowles, Amy Koritz, Minjoon Kouh, Margaret Kuntz, Dan LaPenta, Jens Lloyd, Lisa Lynch, Maria Masucci, Patrick McGuinn, Christina McKittrick, Ziyuan Meng, Joanna Miller, Rory Mulligan,Philip Mundo, Akwasi Nti-Addae, Emanuele Occhipinti, Mary-Ann Pearsall, Karen Pechilis, Michael Peglau, Marie-Pascale Pieretti, Judy Redling, Raul Rosales, Alan Rosan, Susan Rosenbloom, Maliha Safri, Paris Scarano, Claire Sherman, Bernard Smith, Marc Tomljanovich, Nancy Vitalone-Raccaro, Brandie Waid, Hannah Wells, Tammy Windfelder, Courtney Zoffness

Others Attending: Matthew Beland, Sunita Bhargava, Barb Bresnahan, Michael Fried, Colby McCarthy, Shawn Spaventa, Margery Ashmun, Jody Caldwell, Guy Dobson, Kathy Juliano, Irina Radeva, Brian Shetler

The meeting was called to order at 3:16 pm by Debra Liebowitz.

Approval of Minutes: The minutes of the October 5th meeting were approved unanimously.

Dean's Update: Debra Liebowitz shared highlights from the December 4th **Drew Staff Association Meeting,** where President Baenninger answered the staff's questions regarding the budget and personnel reductions. She said some personnel reductions had already occurred, while others would be completed in January. Debra shared her willingness to meet with any staff members with concerns or questions regarding any of the President's announcements or actions.

Debra provided a **facilities' update** regarding the Baldwin Gym and Wendel. For the former, she said there have been water issues which have resulted in the closing of the gym for a period of approximately 5 weeks, but noted timing will be dependent on field conditions discovered as the project progresses. In the interim, Sarah Abramowitz reported that a temporary floor is being built on the Forum floor. Debra said work categorized as "critical" will be prioritized. Steam pipe issues resulted in the need to move students out of Wendel. The renovation will be part of a longer term planning process with respect to residential space.

Debra turned attention to **departmental budgets,** stating she recognizes the challenge of looking at the budget as the semester ends, but asked Departments to carefully estimate budget *needs,* being mindful of spending less wherever possible. She said the goal is to protect the student experience while giving faculty what is needed and is fiscally responsible (i.e. creating common honors receptions that would create community while eliminating duplication of expense and efforts). The overall goal over the next year and a half is to get to 15 to 20% cuts, and Debra additionally asked faculty to use the moment to address illogical administrative procedures that cause unneeded work.

Debra alerted faculty of the **Day of Scholars** (April 5th), which will be held in the spring and will be an all day, campus-wide event. She asked for faculty support and participation, stating more information will follow. She requested April 5th be noted on syllabi and asked that ideas be shared with Jessica Lakin, who will put together a steering committee.

Dean's Council (DC) is working with Debra to move forward with updating the **Faculty Regulations**. Debra has suggested that DC meets with her in the summer, along with a group of elected, divisional representatives as needed, to work on the jurisdictional issues of what should be included in the Regs. They will then determine points of conversation to present, one issue at a time, to faculty for discussion and vote over the course of AY 19-20. Debra asked if thoughts/suggestions about this proposed process could be shared with DC.

Sari Pascoe was introduced at the new **Director of the Office of Diversity, Equity and Inclusion.** Sari will report jointly to Debra Liebowitz and Frank Merckx in developing an institution-wide strategy. Sari shared her goal to develop education, programming, advocacy, leadership and academic advising to five distinct audiences: students, faculty, staff, administrators and community members. She said her offices' efforts will collaborate and align with LAUNCH, with a goal for an AY 2019-2020 Strategic Plan. Debra welcomed Sari and expressed her enthusiasm for the strength the Office of Diversity, Equity and Inclusion will bring to Drew.

Debra requested faculty members make note of the spring **faculty meeting schedule** (January 25, February 22, March 22 and May 3) and noted the critical importance for **book orders** to be sent in before January, so that books may be available to those students who use financial aid to purchase books.

ACTION ITEMS: Transfer Policy: Rita Keane directed the faculty's attention to the first of several votes: Vote 1 (page 9): The first set of revisions updates the catalog policy to match the current practice of counting 3 credit courses towards majors, minors, intermediate and upper-level credits.
Vote 1 – approved unanimously

Vote 2 (page 10): Ryan Hinrichs directed attention to revisions to the Policy that address the emergence of joint high school diplomas with Associate Degrees. Students applying to Drew as first-time college students, and not transfer students, do not fall under the Associate Degree policy, but rather a modified Advanced Standing policy. Other added text clarifies the implementation of the policy for intermediate and upper-level transfer credits.
Vote 2 – approved unanimously

Vote 3 (originally a "For Discussion" Item page 11, but moved to a voting item): Ryan Hinrichs categorized the current policy for IB and A-level credits as ambiguous regarding the satisfaction of Breadth/General Education requirements with credits transferred in. He said based on the recent Associate's Degree policy (which awards credit for Breadth requirements), CAPC

recommends that AP, IB and A-level courses (credit by examination courses or courses viewed as equivalent as first-year course work) also count towards Breadth requirements. He said, of our 15 peers, 8 allowed credits to count for Breadth and students take these higher-level courses **not** to have to take courses at the 101 level when arriving at Drew**.** Both Debra and Ryan said credits are only given if departments determine the coursework taken has an equivalency at Drew and if they meet our Breadth requirement. From a practical standpoint, Jessica Lakin said Ladder and the Registrar's Office are set up to accept these AP courses as satisfying 101 level courses when coming in. Sarah Abramowitz shared her enthusiasm for students who have taken AP courses as positive and enthusiastic learners and suggested our Policy should not discourage these students. Debra said SGA students shared with her their frustration of this policy, encouraging clarification.
Vote 3 was passed with 3 abstentions and will strike from the Advanced Placement Credit Policy that AP credits cannot be applied to Breadth requirements in the Drew General Education program. This will be reviewed with the initiation of the Launch program.

Tina McKittrick expressed her concern as to how transfer and international students will seamlessly integrate into Drew as the new Launch curriculum is brought on line. Debra assured her this concern is noted, is part of the current dialogue, and will continue to be in the future.

Vote 4: Rita Keane asked for questions on the revisions to the **Satisfactory Academic Progress Policy** as outlined on pages 12 through 15. None were raised, with the **revisions passing unanimously.**

Vote 5: The **Museum Studies and Cultural Management minor revisions** pages 15-18 were **passed unanimously**, after an SLO clarification.

Vote 6: The **creation of the Master of Science in Data Analytics program** was brought to the floor for discussion. Debra clarified that the question of timing is under review, and stated a full P & L analysis for the proposed program is underway. She encouraged questions in order to keep the momentum moving forward. A question arose regarding staffing, to which Sarah Abramowitz clarified there will be one new hire, who will teach 5 courses during the academic year. Andrew Bonamici reported data analytics is a rapidly growing and exciting area and said he would welcome a collaboration with the Library and Instructional Technology as this program is developed and offered. Chris Ceraso raised a concern that ethics courses should be part of the data analytics course offerings, to which Sarah agreed and responded that in fact there are two classes that specifically address ethics and others which will have ethical components.
Vote 6 **passed unanimously** and Debra thanked Ryan, Sarah, the Department and CAPC for their efforts.

Vote 7: The offering of **Dual Degree Engineering Programs**, 3 + 2 and 3 + 3, Drew University and Washington University in St. Louis, was **approved unanimously,** with Debra extending her thanks to Ryan and Bob for bringing this additional option to our students.

REPORTS: Curricular Report: No questions were raised for Rita Keane regarding the Curricular Report. Debra thanked Rita and the Committee for the huge amount of work they have expended throughout the fall semester.

Committee on Faculty: In Carol Ueland's absence, Roger Knowles shared the COF recommendations made to the Provost:

For tenure track reappointment: Chris Casement, Yi Lu and Alex de Voogt

Enrollment Management: Bob Massa reported the good news that applications are up 12 ½% over the previous year and continue to track positively. He said the early decision deadline closed with 81 applications up from 70 the previous year. Bob shared the incoming class' enrollment will be driven by price and Launch, with a yield goal of 18% (13% was the yield 4 years ago when Drew's smallest class was enrolled and 16% was last year's yield).

No questions were raised for the **Advancement Report.**

Library Report: No questions were raised regarding the Library Report, but Andrew Bonamici introduced, and the faculty welcomed Jenna Corraro, the University's new Instructional Designer who will focus initially on hybrid and online graduate courses in the Theological School. Debra expressed her enthusiasm for the development of a strong instructional team who can assist faculty.

Ballot: Caitlin Killian asked for additional names of those interested in serving on committees and highlighted those committees in need of representatives (page 71) before stating an electronic ballot will be distributed within 5 days.

APBC: With the absence of Rebecca Soderholm and Steve Kass (Arts & Sciences representatives), Debra reported that APBC has begun meeting and will provide a monthly report at faculty meetings, beginning February 2019.

For Discussion: Launch Update: Juliette Lantz asked the faculty to look at the report in the Packet on pages 58-59 and noted the change in the Launch schedule as described at the bottom of page 59. She also noted some timing changes for Launch, sharing that the full start for Launch is now being geared for the class entering in 2020. However, CRUE is recommending more immediately, that immersive experiences replace the current off-campus requirement. The language for this change will be presented for vote at the January 25th Faculty Meeting. A proposed draft of language will be sent out via email prior to the 25th.

Daniel Pascoe then highlighted the incorporation of identity and intercultural development as part of the Drew Career Development co-curriculum, whose strategic efforts will be to centralize functions (event planning, logistics management, marketing). Daniel said space analysis is underway to determine a centrally located, highly visible, strategically dynamic space designed for student success and the collective facilitation of students' experiential education and career development. Daniel asked faculty to review the 7 career interest communities and 8 identity affinity career communities outlined on page 58, which are being developed to provide focus through customized networks, opportunities, support, resources and programs based on the described career interest and or identity affinities.

Roger Knowles asked about budget implications for providing students with immersive experiences. Debra replied many students already do several immersive experiences and said Daniel and Jessica are working on a budget for the Center, where pools of experiential and restricted funds can be allocated. She asked faculty members to identify what spending already occurs related to these experiences and said additional funding needs will be reviewed as requests are made.

Debra thanked CRUE, contributing faculty members, members of the Curriculum and Assessment Committees, Amy Koritz, Stacy Fischer, Greg Townsend and Daniel Pascoe for their incredible efforts and progress in creating exciting opportunities for our students.

New Business: Debra Liebowitz announced that Chris Taylor would be on leave in the spring but has taken the position as a Provost of Habib University in Pakistan. She called him an incredible mentor, professor, colleague and friend. Chris was met with a warm round of applause of appreciation and recognition.

Announcements and Documents: MLK Celebration at Drew - Amy Koritz asked faculty members to sign up for the off-campus service experiences (see link page 60) being held on January 19th and extended an invitation to an informal Civic Engagement meeting on December 11th. Debra said there will be no classes on Monday, January 21st and said it provides a perfect opportunity to introduce the Office of Diversity, Equity and Inclusion to the community. She thanked Amy and Sari for their efforts.
Drew Review: Hannah Wells encouraged submissions for publication for the *Drew Review* by February 11th. She asked faculty members to keep a look out for papers that would benefit from further revision and said papers being graded now are ideal for consideration.
Digital Humanities Faculty Workshop: Wendy Kolmar announced the second annual faculty development day with Danielle Reay to be held January 11th. Details forthcoming.
Art Opening: Michael Peglau extended an invitation to the Student Show in the Korn Gallery, followed by a reception.

Before adjourning, Debra wished the faculty good luck with grading and an enjoyable break.

The meeting was adjourned at 5:07 p.m.

Minutes respectfully submitted by Trish Turvey

VOTING LIST SPRING 2019

Abramowitz, Sarah*
Anderson, Erik#
Andrews, Christopher
Apelian, Christopher
Arango-Vargas, Carolina
Arnold, Lee
Baenninger, MaryAnn
Bai, Di
Bajcz, Alex
Baring, Ed
Barker, Brianne
Bazewicz, Jim
Bernstein, Frances*
Blatter, Jeremy
Boglioli, Marc#
Brenner, Lisa
Burd, Barry
Cantero-Exojo, Monica
Carter, James
Carter, Timothy
Casement, Christopher
Cassano, Adam
Ceraso, Chris
Cermele, Jill
Chi, Miao*
Choquette, Kimberly
Cole, Darrell R.
Cousens, Graham A.
Crowther, Molly
Dawson, Allan
de Voogt, Alex
Dolan, Patrick
Dunaway, Stephen
Elliott, Andrew
Evans, Wyatt*
Fazen, Christopher
Fortune, Sophia
Fowlin, Kimani
Golden, Jonathan
Hala, Jim
Harris, Seth
Harrison, Summer
Hill, Emily
Hinrichs, Ryan
Ivanets, Oleg
Jaising, Shakti#
Jamieson, Sandra
Jennings, George-Harold
Jordan, Jason
Jordan, John
Jordan, Lisa Marie
Kalagher, Hilary
Karolak, Jason
Kass, Steve
Kavaloski, Joshua
Keane, Marguerite
Keyser, Catherine*
Keyser, Sandra
Killian, Caitlin
Kirby-Calder, Angie
Knowles, Roger
Kohn, Jennifer
Kolmar, Wendy
Koritz, Amy
Kouh, Minjoon
Kuntz, Margaret
Lakin, Jessica
Lantz, Juliette
LaPenta, Dan
Larson, Bjorg
Lee, Seung-Kee
Lenz, John
Levi, Neil
Liebowitz, Debra
Lloyd, Jens
Lokaneeta, Jinee
Lu, Yi
Lynch, Lisa
Madra, Yahya
Maier, Caroline
Masucci, Maria
McGuinn, Patrick
McKittrick, Christina
McLaughlin, Rosemary*
Medvecky, Christopher
Meng, Ziyuan
Miller, Joanna
Mishra, Sangay
Moore, Kesha*
Morgan, G. Scott
Morin, Tomas
Muccigrosso, John#
Mulligan, Rory
Mundo, Philip
Murawski, Robert
Nevin, Sean
Noguera, Nancy
Nti-Addae, Akwasi
Occhipinti, Emanuele
Olmsted, Jennifer
Ortega-Aponte, Elias%
Ostrega, Jennifer
Pearsall, Mary-Ann
Pechilis, Karen
Peglau, Michael
Pieretti, Marie-Pascale
Placet-Kouassi, Muriel
Porras, Jonathan
Reader, Jonathan
Redling, Judith
Rhodes, Kimberly
Rooney, Carolyn
Rosales, Raul
Rosan, Alan
Rose, Jonathan
Rosenbloom, Susan
Russo, Anthony
Safri, Maliha
Scarano, Paris
Sherman, Claire
Smith, Bernard
Soderholm, Rebecca
Sprout, Leslie
Stein, Raymond
Sundue, Sharon
Supplee, James
Surace, Steve
Taylor, Christopher*
Tomljanovich, Marc
Turner, Kristen
Turreo-Garcia, Maria
Ueland, Carol
Vittalone-Raccaro, Nancy
Waid, Brandie
Wells, Hannah
Weston, Trevor
Windfelder, Tammy
Winer, Marti
Xu, Chenyang
Yordan, Carlos
Zoffness, Courtney

#Sabbatical or Leave AY 2018-19
***Sabbatical or Leave Spring 2019**
% Joint Appt with Theo

Update: 01.22.19

Curricular Report

December 2018

<u>For Action:</u>

- **Arts Administration for Performing Arts Minor**
- **Engineering Physics major**
- **Changes to Physics major (B.A. /B.S.)**
- **Changes to Biology major (B.A. /B.S.)**
- **Designation of Biochemistry & Molecular Biology major as BS**
- **Designation of Computer Science major as B.S.**
- **Academic Integrity Policy & Alternative Resolution form-Revised**
- **Academic Standing- revisions to Faculty Regulations**

<u>For Information</u>:

<u>Change to Existing Major:</u>

- **Psychology-Change in credits from 2 to 4 for PSYC 350**

<u>New Courses</u>:

- **DATA 501/Data Analytics: Introduction, History, and Case Studies**
- **DATA 502/Data Visualization and Communication**
- **DATA 503/Applied Regression Analysis**
- **DATA 504/Network and Text Analytics**
- **DATA 551/Modeling and Simulation**
- **DATA 552/SQL for Big Data**
- **DATA 601/Statistical Machine Learning**
- **DATA 602/Topics in Data Analytics**
- **DATA 610/Independent Study in Data Analytics**
- **DATA 680/Data Analytics Practicum**
- **DATA 688/Capstone: Case Studies in Data Analytics**

<u>Revision to Existing Course:</u>

- **PSYC 350L/Laboratory in Psychology [WRIT]**
  - **Credit change from 2 to 4**
  - **Removing L from the course number**

<u>ADDENDUM: Proposal to confer Bachelor of Science degrees at Drew University</u>

- **This addendum to this month's curricular report is intended to help faculty place the new proposed B.S. majors in the context of the B.S. proposal approved by the faculty last May.**

<u>For Action:</u>

<u>#1. Arts Administration for Performing Arts Minor</u>

Proposal for a New Minor
Arts Administration for the Performing Arts

I. Rationale
What is the rationale for creating this new minor? How will it contribute to the undergraduate education at Drew? What evidence is there of student interest in the minor? How have external benchmarks for the minor such as national association standards or comparable programs at our comparison or peer institutions been used in developing this proposal?

Arts Administration is an excellent example of a multi-disciplinary subject. Relying on research and expertise from various fields of study, not only an understanding of the Arts, but also Business, Economics, Ethics, Statistics, Public Policy, Marketing, Management, Organizational Behavior, and Sociology to name a few.
For decades the Arts Administration/Museology minor has existed here at Drew, and has been updated twice in the last 20 years. The most recent incarnation changed the name to the Arts Administration/Museum Studies minor.

In discussions with Division IV we have realized that the minor is trying to offer a collective, combined curriculum to two distinct populations, and in the delivery of that curriculum isn't truly serving either group in the best way possible. Also with the revamping of the Business Studies Major, the Film and Media Studies Minor as well as growth in the Dance, Music, Political Science etc… curricula (or curriculums if you prefer) it was high time to upgrade the minor to incorporate the richness of courses which are so appropriate for this minor.

The minor has been quite popular over the years and as of this writing has about 35 active minors. Splitting this minor into two parts will pretty equally split the number of students in half for each.

It is important to note that no new resources are being requested at this time.

In creating the proposed minor we examined Arts Administration minors from schools similar to Drew. Of our 45 Peer, Aspirant and Competitor schools only 5 had Arts Administration minors Illinois Wesleyan University, Susquehanna University, Goucher College, Skidmore College and Rider University. Given this we also looked at school curriculums approved by AAAE similar to Drew, Elon University, Le Moyne College, and Albright University (Skidmore College and Rider University are also AAAE members). The proposed curriculum follows the *undergraduate program Standards for Curricular Best Practices* developed by the Association of Arts Administration Educators (AAAE) an international group of college and university educators who have spent countless hours discussing the finer points of an Arts Administration curriculum.
(http://www.artsadministration.org/wp-content/uploads/2013/09/AAAE-Undergraduate-Standards-Spring-2012_0.pdf)

This document is a living document which is continually updated as trends in the field change. As of the last writing, the AAAE suggests that these guidelines can be changed to fit the existing resources of an institution, as long as it builds a foundation in the following areas.

- *Basic business skills: accounting, financial management, organizational theory and practice.*
- *The financial and legal needs and realities of arts organizations.*
- *The production and presentation of art*
- *Marketing strategies and outreach programming for the arts*

- *Resource development for the arts.* [1]

We cannot expect a minor to meet all of these pieces in any in-depth way, so the student is introduced to these ideas in the core course and then can expand upon their particular interests in the electives section. This is where our minor gets its unique nature. We are also quite aware of the demands on the Business Studies program and realize that it would be impossible for all ARAD minors to take say the Financial Accounting course and the Marketing course, so we don't make them required for the minor. But we feel the course offerings suggested here are sufficient to cover various pieces of the greater whole.

II. Learning Objectives for the Minor

1. Introduce and develop basic arts administration competencies in areas such as marketing, strategic planning, financial management, grant writing, and be able to effectively communicate them.
2. Begin to cultivate both practical and creative approaches to problem solving.
3. Contextualize the roles arts organizations play in our society and the interconnectedness of the forces which effect these organizations.

Learning Outcomes for the Minor:
At the end of this course of study students should be able to:

1. Articulate the nature of the work of a performing artist within an arts organization.
2. Describe how arts organizations contribute to the public good.
3. Create an action plan to solve problems in arts organizations.
4. Analyze how arts organizations operate on a daily basis.
5. Identify competencies for further development after the internship experience.
6. Evaluate the field of arts administration as a career path for themselves.

IIa. Assessing the learning outcomes.
To successfully assess these learning outcomes rubrics will need to be developed for each outcome.
Below is an approach to assessment for each of the learning goals.
1. The first two outcomes are closely connected and can be evaluated using written assignments in the core course. The marketing assignment can easily be assessed to examine how well students articulate the work which an artist does.
2. The final project in the core course is to create a business plan for an arts organization which fills a need in the community. This project could be used as the deliverable for this learning outcome.
3. The Core course uses the case study method to examine administration challenges. One of the steps in solving these problems is to create an action plan to follow to achieve the intended outcome. Using a random selection of case studies we could evaluate if this learning goal is being met.
4. Students are required to complete an internship during the course of their minor. In that internship they are using what they learned in their coursework and applying it practically. The written paper from the internship could be used as an assessment tool for this outcome.
5. The Internship paper holds the key for both outcome 5 and 6. In the final paper students are asked to reflect and self-identify their strengths and weaknesses as potential Arts managers as well as how what they learned in the minor connects to their future career goals.

III. Curriculum/Minor Requirements
a. Outline the requirements for the minor and provide a rationale for the proposed minor structure and courses.

1. Understanding the Arts: These are courses in the performing arts which give the student an understanding of what it is the arts manager is working for. Courses can be in either theoretical or

practical application (in consultation with the music and theatre and dance departments). Practical applications courses would need to be taken multiple times to fulfill this requirement since they are 1 credit each. That is okay, since these experiences are different each time. A major in Arts Administration would expand this to include both theory and practice courses, but the minor has no room. This is why it is suggested that the minor should be paired with another minor, or a major in music, theatre, dance, or applied performance.
AAAE guidelines state: *To be credible in an arts environment, an administrator must demonstrate understanding of the nature and needs of the arts genre(s) that his or her organization presents. To be successful, the arts administrator must be able to apply knowledge of artistic creation and arts production to management decision-making processes. Arts administration programs on the undergraduate level should ensure that students have familiarity with the history and practice of the arts discipline(s) for which they hope to provide administrative services*.[2]

2. Core: This course provides the contextual framework for the minor. All the other courses when taken with this reference, begin to paint a clear picture of how these interdisciplinary pieces begin to fit together.

3. Electives: Choose one course in each of three of the four categories.
These groups of courses are broken down by skills, or connected general subject area. All these courses encompass methodologies, concepts, skills, or information which is useful for the arts manager. As you read through this keep in mind that these courses enhance and develop what is being taught in the core course.

The first group **writing and communication** clusters courses which deal with writing in business settings as well as communications and the media. For example, arts managers need to understand how to write for and about business, or should have an understanding of how basic media works.

Interestingly there is no specific area in the AAAE guidelines for this, perhaps there should be. I hope that it is clear the importance of being able to communicate as an administrator both verbally and in writing. I've included the courses in French, Italian and Spanish here as they deal with business communication in different languages and cultures.

The second **Quantitative Skills: Technology Management / Research Methodology** does the same but for quantitative. This category includes courses which cover Financial Accounting, Economics, Data systems, and Statistics for Business. Again taking one course is a small slice of the bigger pie. The added course in this area is meant to build and deepen information introduced in the core course. The AAAE guidelines offer various areas to cover, this category morphs both Financial management and Technology Management and Training.
Effective financial management supports successful revenue development. Managers must be comfortable explaining their organization's financial situation to stakeholders including members, government funders, donors, sponsors and lenders. Students should learn how to communicate financial concepts effectively, so that they are equipped to deal with a variety of stakeholders.

At the Foundational level, students should be able to:
- *Perform basic accounting and reporting functions*
- *Demonstrate a basic understanding of not-for-profit financial statements and charts of accounts*
- *Generate, interpret, and explain financial statements:*
- *Balance sheets*
- *Activity/operating statements*
- *Cash flow statements*
- *Appropriate notes to the statements*

• Discuss role of accounting and financial management with mission-driven organizations
• Describe how financial environment & regulatory framework influence/shape individual organizations' accounting systems. [3]

Although technology presents opportunities for applications in marketing, research, fundraising, communications product delivery and many other aspects of our operations, it also presents arts administrators with significant challenges. Customers expect not-forprofit arts organizations to provide the same up-to-date technological services as any forprofit business. At the same time, the dynamic nature of most technologies guarantees obsolescence. The field demands that managers think analytically and ask critical questions about technology needs and applications that are current and as they plan for the future.
The focus in the foundational stages is for the student to gain familiarity with the most common programs and applications through hands-on experience. Students should be able to:
• Understand how technology is being used in the creation and distribution of work in artistic disciplines.
• Use online sources to find information
• Demonstrate proficiency with the specific technology used to manage arts organizations,
• Understand the technology necessary to create print and electronic publications.
• Understand information distribution technologies. [4]

The third **Administrative/Business skills: Institutional Leadership and Management skills**, covers Leadership, Non-Profits, Management, and Marketing; mostly courses in Business Studies(BST) and Civic Engagement (CE).

The arts enterprise is inherently collaborative; students need to understand concepts of leadership and followership in order to understand how to adapt to the ever-changing environments in which they will work. The field demands the capacity for a breadth of leadership styles in a single leader and our students must understand how to lead even if they do not become the chief executive officer of an organization. Students need to be cognizant of multiple disciplines, of other disciplines and their relationship to them. They should have the capacity to communicate organizational vision to multiple disciplines and constituents. Because the arts are well suited to transformational leadership, we are uniquely poised to teach others about leadership and adaptability.
The following are foundational, developing, and best practice learning outcomes which when taken as a whole provide a baseline for undergraduate programs to consider their current curriculum, material, and teaching resources.
At the Foundational level, students should be able to:
• Demonstrate a basic understanding of the functioning of for-profit and non-profit organizations
• Describe various organizational structures and how these continue to evolve
• Describe basic principles of human resources management
• Understand basic principles of financial management and internal and external reporting
• Understand fundamentals of hiring and supervision
• Cite basic responsibilities of governance/trusteeship
• Describe how technology can increase participation in the programs and initiatives of the organization
• Demonstrate an appreciation of and a fundamental understanding of how the "art" the organization creates and/or presents is made

• Demonstrate a basic understanding of business planning
• Demonstrate a basic knowledge of marketing/audience development and fundraising [5]

The fourth area **Organizational Behavior/Public Policy and Advocacy**, examines courses in the Political Science Department specifically looking at Public Policy and Advocacy as well as Ethics (Religion), and how these organizations effect people (Sociology, Humanities, Anthropology). Again this area morphs two AAAE areas, community engagement with the policies which govern them. The thinking here is that there are systems which affect people. Whether the system is the organizational structure, the community culture or the policies which lawmakers impose on both of these. And of course Business Ethics is at the heart of beginning to unpack understanding these areas, so I include it here.

It is essential that arts administrators understand arts and cultural policy in order to play a role in improving the quality of life in their communities, to be active participants in civil society, and to be effective speakers for the place of the arts in society…
The attitudes of public policymakers directly affect the level of public funding for the arts and set a general tone for the environment in which the arts function. Public officials around the world have brought a range of perspectives about the value of the arts to public life and the role of public support.
At the foundation level should be concerned with developing descriptive information and introducing the major influences on policymaking. Students should be able to:
• Describe content topics & current policy issues affecting the arts
• Cite important organizations affecting cultural policy, including governmental agencies
• Describe policy making processes
• Describe relations between culture and society
• Understand the importance of advocacy
• Describe community-based arts/cultural processes and assets
• Perform basic analysis of policy-relevant research [6]

A culture of community engagement and community service will be a hallmark of successful arts organizations in the 21st Century. By mid-century in the United States, citizens of European descent will comprise less than half of the population. As competition for donors and audiences increased, and arts organizations attempt to position themselves as important forces in the lives of their communities, they will need to gain skills in developing relationships with diverse constituencies in order to engage new constituencies.
At the Foundational level, students should be able to:
• Demonstrate an understanding of non-Western cultural traditions and alternative Western cultural traditions
• Demonstrate an understanding of community-focused art
• Describe changing demographics of their community and its artistic needs
• Describe the impact of arts and cultural activities on communities
• Apply theory/principles of community-focused art (e.g., best mode applicable to particular community issue)
• Analyze community issues
• Demonstrate an understanding of community organizing and relationship building
• Cite examples of practice in community-focused arts projects
• Design evaluation processes for community-focused arts projects
• Apply skills in intercultural communication [7]

It would be wonderful for students to take one course (or more) from each of these areas, but we didn't want the minor to get to be bigger than the old minor's 28 credits *full disclosure* (In the Core course, there are a hidden four credits of pre-requisite, which were not disclosed in the old minor) We decided to clearly spell this out by including it in the new minor

4. Internship: This section asks the student to do a four-credit internship in an administrative capacity at an Arts organization. This allows for a praxis experience in the discipline, allowing the student to explore, first hand, the wide range of topics and skills covered in the minor. The Internship paper is focused on examining how the organization operates and explores the challenges it faces in an everchanging world.

We have added the following language to the end of the minor to encourage students in various fields of study to participate. This is common at other universities. Our feeling is that it allows a more meaningful study of the topic for those truly interested in pursuing the discipline further, but we feel that the minor stands on its own.

Companion Major/minor
Students taking this minor are encouraged to have a companion major or minor in one of the following fields: Business, Dance, Economics, Film Media and Communications Studies, Music or Theatre.

b. Provide complete catalog copy for the minor as you want it to appear in the on-line catalog and the next print catalog.

Arts Administration for the Performing Arts Minor (28 Credits)

Arts Administration by its very nature is interdisciplinary, drawing from the Arts, Business, Political Science, Sociology, Media and Communications, Computer Science, and Leadership. Students will learn about marketing, strategic planning, advocacy, fundraising, budgeting, grant writing and other skills vital to the work of an arts manager. Arts managers make it possible for artists to create their art. Arts Administration minors have gone on to a wide range of careers in arts management, from starting small theatre and dance companies, managing orchestras, to producing Broadway shows and working at major record labels.

Arts Administration: Performing Arts Minor (28 Credits)

At least 16 credits must be from intermediate or upper level.

I.Core: (4)
THEA 270 - Performing Arts Administration OR
MUS 270 - Performing Arts Administration

II. Understanding the Art (8)
(note: Music Ensembles and Theatre Practice may need to be taken multiple times to meet the credit requirement)

DANC 101 - Beginning Movement Studies
DANC 201 - Intermediate Movement Studies *

DANC 220 - Movement for the Musical Stage
DANC 250 - Special Topics in Dance
DANC 322 - Choreography and Performance Studies *
MUS 103 - Introduction to Western Art Music
MUS 110 - Choral Union
MUS 215 - Chorale
MUS 217 - Madrigal Singers
MUS 222 - University Chamber Orchestra
MUS 225 - Flute Ensemble
MUS 226 - Jazz Ensemble
MUS 229 - Chamber Music
MUS 231 - History of Opera *
MUS 233 - Music of the Whole Earth
MUS 234 - History of Jazz
MUS 236 - Women and Music
MUS 238 - African American Music History
MUS 232 - Music and the Soundscape of Film
MUS 240 - Music in the American Century
MUS 301 - Music of the Medieval, Renaissance, and Baroque Eras *
MUS 303 - Music of the Classic and Romantic Eras *
MUS 311 - Music of the Twentieth and Twenty-First Centuries *
MUS 360 - Choral Music Intensive
MUS 370 - Recital *
THEA 101 - The Art of the Play
THEA 135 - Acting and Directing
THEA 210 - Theatre History I: Origins to the Renaissance *
THEA 264 - Show: Business
THEA 269 - Special Topics in Dramatic Literature
THEA 301 - Theatre Practice: Playwriting
THEA 302 - Theatre Practice: Shop Technician
THEA 303/313 - Theatre Practice: Design
THEA 304/314 - Theatre Practice: Stage Management
THEA 305/315 - Theatre Practice: Acting
THEA 306 - Theatre Practice: Dance
THEA 307 - Theatre Practice: Design for Dance
THEA 308/318 - Theatre Practice: Electrician/Technical Director
THEA 309/319 - Theatre Practice: Dramaturgy
THEA 380 - London Semester Interdisciplinary Colloquium
THEA 383 - British Political Drama

III. Electives: (12)
Choose twelve credits from three different categories.

Writing and Communication
ENGH 121 - Introduction to Media Studies
ENGH 111 - Introduction to Writing and Communication Studies
ENGH 215 - Business Communication
ENGH 216 - Introduction to Journalism
ENGH 241 - Blogs, Tweets and Social Media
ENGH 342 - Theory and Practice in Media Communication *

ENGH 386 - Theories and Effects of Media Communication *
ENGH 387 - New York Semester on Communications and Media Colloquium *
FREN 334 - International Business French
ITAL 306 - Italian for Business
SPAN 379 - Doing Business in the Hispanic World *
SPCH 101 - Speech Fundamentals

Quantitative Skills: Technology Management / Research Methodology
BST 115 - Fundamentals of Financial Accounting
DATA 200 - Data Science: Introduction, History, and Case Studies
CSCI 270 - Computing Technology, Society and Culture
CSCI 330 - Databases & Information Management *
CSCI 350 - Computer Networks & Security *
ECON 101 - Economic Principles: Microeconomics
HIST 215 - History by the Numbers
MATH 116 - Introductory Statistics for Business and Economics
MATH 320 - Probability *

Organizational Leadership : Institutional Leadership and Management skills
ANTH 209 Anthropology of Business
BST 286 - Social Entrepreneurship: Theorizing Global Trends
BST 287 - Applied Analysis of Social Entrepreneurship
BST 305 - Market Strategy & Marketing *
BST 310 - Management *
BST 355 - Selected Topics in Marketing *
CE 215 - The Non-Profit Sector
CE 250 - Leadership in Practice

Organizational Behavior/Public Policy and Advocacy
ANTH 203 - Cultures, Economies, and Globalization
ECON 247 - Economics of Business and Sustainability *
HUM 201 - Culture and Exchange
PSCI 103 - American Government and Politics
PSCI 219 Business and Government in U.S.
PSCI 314 - American Political Economy *
PSCI 316 - Social Policy and Inequality in America
PSCI 320 - Environmental Policy and Politics *
PSYC 369 - Seminar in Industrial Organizational Psychology*
REL 214 - Business Ethics
SOC 217 - The Sociology of Management *
SOC 249 - Sociology of Work *
SOC 309 - Sociology of Mass Communications *

*Denotes a course with a pre-requisite

IV.Internship (4)
INTC 200 - Internship project

All minors will complete an administrative internship in their field of interest in consultation with the program director.

Companion Major/minor

Students taking this minor are encouraged to have a companion major or minor in one of the following fields: Applied Performance, Business, Dance, Economics, Film Media and Communications Studies, Music or Theatre.

----

c. Provide a table showing a two-year rotation of course offering by semester with proposed instructors.

Course	F '17	S'18	F'18	S'19	Faculty
I)Understanding the Art					
DANC 101Beginning Movement Studies (2)		x		x	Fowlin
DANC 201 Intermediate Movement Studies (2)		x		X	
DANC 220 Movement for the Musical Stage	x		X		Adjunct
DANC 250 Special Topics in Dance	x		X		Fowlin
DANC 322 Choreography and Performance Studies	x	x	X	X	Fowlin
MUS 103 Introduction to Western Art Music	x	x	X	x	Sprout
MUS 215 Chorale (2)	x	x	X	X	Bishop,Webb…
MUS 217 Madrigal Singers					
MUS/PAST 220 Pan African Chorale Performance (2)	x	x	X	X	Miller
MUS 222 University Chamber Orchestra	x	x	X	x	Avagliano
MUS 225 Flute Ensemble (1)	x	x	X	X	Carter
MUS 226 Jazz Ensemble (1)	x	x	X	X	Saltzman
MUS 229 Chamber Music (1)					
MUS 231 History of Opera					
MUS 233 Music of the Whole Earth		x		X	Saltzman
MUS 234 History of Jazz	x		X		Saltzman
MUS 236 Women and Music					
MUS 238 African American Music History			X		Weston
MUS 232 Music and Soundscapes of Film		x			Sprout
MUS 240 Music in the American Century					
MUS 301 Music of Medieval, Renaissance & Baroque			X		Sprout
MUS 303 Music of Classical and Romantic Eras				x	Sprout
MUS 311 Music of the 20th and 21st Centuries	x				Sprout
MUS 360 Chorale Music Intensive	x				Bishop
MUS 370 Recital		x		x	Weston
THEA 101 Art of the Play	x	x	X	X	LaPenta, Richards
THEA 135 Acting and Directing	x	x	X	X	Richards, Gilbert
THEA 210 Theatre History I:Origins to Renaissance	x		X		Farrington
THEA 264 Show:Business					McLaughlin
THEA 269 Special Topics in Dramatic Literature (Summer)					Bazewicz
THEA 301 Theatre Practice: Playwrighting	x	x	X	X	McLaughlin

THEA 302 Theatre Practice: Shop Technician	x	x	X	X	Elliott
THEA 303/313 Theatre Practice: Design	x	x	X	X	Bazewicz
THEA 304/314 Theatre Practice: Stage Management	x	x	X	X	LaPenta
THEA 305/315 Theatre Practice: Acting	x	x	X	X	Ceraso
THEA 306 Theatre Practice: Dance	x	x	X	X	Fowlin
THEA 307 Theatre Practice: Design for Dance	x	X	X	X	Bazewicz
THEA 308/318 Theatre Practice: TD and Electrician	x	x	X	X	Elliott
THEA 309/319 Theatre Practice: Dramaturgy	x	x	X	X	Brenner
THEA 380 London Semester Interdisciplinary Colloqu	x		X		Program Director
THEA 383 British Political Drama	x		X		White
II)CORE					
THEA 270/MUS 270 Performing Arts Administration		x		X	Bazewicz
III)Electives (3 from different categories)					
Writing and communication					
ENGH 111 Intro Writing and Communication Studies	x	x	x	X	Lloyd
ENGH 215 Business Communication	x	x	X	X	Adjuncts
ENGH 216 Introduction to Journalism	x		X		Adjunct
ENGH 241 Blogs, Tweets and Social Media		x		X	Jamieson
ENGH 342 Theory Practice in Media Communication		x		X	
ENGH 344 Rhetorics in the Workplace					
ENGH 386 Theories Effects of Media Communication		x			Lynch
ENGH 387 NY Sem on Communicati and Media Colloq		X			Lynch
MCOM 101/ENGH 121 Intro Media Studies	x	x	x	X	Lynch
SPCH 101 Speech Fundamentals	x	x	X	X	McAdams, A
Quantitative Skills:Technology/ResearchMethodology					
BST 115 Fundamentals of Financial Accounting	x	x	X	X	Various
BST 120 Business and Technology, Perfect Together?		x		X	Adjunct
CSCI 270 Computing Technology, Society and Culture					??
CSCI 330 Databases and Information Management	x		myb e		Hill
CSCI 350 Computer Networks and Security		x		x	
ECON 101 Economic Principles:Microeconomics	x	x	X	x	Various
ECON 102 Economic Principles:Macroeconomics	x	x	X	x	Various
HIST 215 History by the Numbers	x		x		Evans ?
MATH 111 - Introduction to Quantitative Reasoning		x		x	Crisonino
MATH 116 Intro to Stats for Business and		myb	myb	myb	

Economics		e	e	e	
MATH 117 Introductory Statistics	x	x	X	x	Various
Administrative/Business Skills: Leadership and Management					
BST 286 Social Entrepreneurship:Theorizing Global T		x		x	Olmsted
BST 287 Applied Analysis Social Entrepreneurship		x		x	Olmsted
BST 305 Market Strategy and Marketing					
BST 310 Management	x		X	x	
BST 340 Strategic Decision Making			X		
BST 355 Selected Topics in Marketing					??
CE 215 The Non Profit Sector	x		X		Andrews
CE 250 Leadership in Practice		x		x	Koritz
SPAN 379 Doing Business in the Hispanic World			X		adjunct
Organizational Behavior/Public Policy and Advocacy					
ANTH 203 Cultures Economies and Globalization	x				Boglioli
ECON 247 Economics of Business and Sustainability					?? was Curtis
HUM 201 Culture and Exchange					Not currently offered
PSCI 102 Comparitive Political Systems	x	x	X	x	Various
PSCI 103 American Government and Politics	x		X		
PSCI 212 Public Policy and Administration					No staff
PSCI 314 American Political Economy					
PSCI 316 Social Policy and Inequality in America				x	staff
PSCI 320 Environmental Policy and Politics		x			Mundo
PHIL 214/ REL 214 Business Ethics	x	x	x	X	Cole
SOC 217 Sociology of Management	x		X		Reader
SOC 249 Sociology of Work		x	X		Andrews
SOC 309 Sociology of Mass Communications		x		x	TBA
IV) Internship					
INTC 200 Internship Project	x	x	x	X	Bazewicz
V) Capstone					
ARAD 400 Capstone in Performing Arts Administration			x	x	Bazewicz

IV. Impact on and Connections with Other Departments/Programs
Does the proposed minor offer possibilities for interdisciplinary collaboration? Will the proposed minor depend on courses from other departments? Will the proposed minor offer courses that might be cross-listed by other departments? Will the proposed minor have a significant impact on enrollments in other departments/programs?

There could be opportunities for cross disciplinary collaboration, since this is such an interdisciplinary minor. These collaborations could be with Economics, Business Studies and/or Civic Engagement.

Just as it has in past incarnations, this minor relies on other departmental offerings in order to exist. The fact that there are more courses to choose from for the minor, will naturally disperse these students more around the curriculum. We don't imagine that this change will have a negative impact on course enrollments, since the courses associated with the old minor have had a history of healthy enrollments, even without the Arts Administration minors.

The Media and Communications major is still in its infancy, and their courses have had waitlists. We collectively don't forsee this as a problem as of now for either that major or this minor, but we will keep our eye on it to see if Media and Communications courses are being oversubscribed because of the Arts Administration minor.

The Core course, Performing Arts Administration, is already listed as an elective in the Business Studies Major and minor.

V. Effective Date/Transition Plan
What is the effective date for the new minor? If an old minor is being phased out, what is the transition plan? Which students will under the old requirements and which under the new?

We trust the judgement of the registrar in this issue; but to not have this be a bookkeeping nightmare, we suggest that the new minor should go into effect with current sophomores and below.

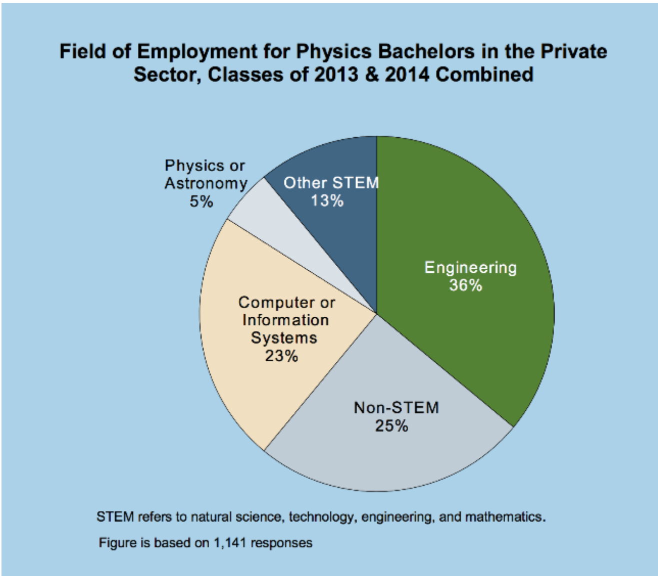
VI. Course Descriptions
Attach complete course proposal forms and gen ed forms for each new or revised course included in the minor.

#2. Engineering Physics Major

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 here, and note that more detailed information is required below.

Students who major in physics go on to have diverse roles and career trajectories. To accommodate such diversity in interests and goals of students, we are proposing to create an "Engineering Physics B.S." major, which will be a track recommended for students pursuing a career in engineering. There is a rising population of students coming to Drew with such career goals. 20% of our international students indicate that they are interested in engineering. Approximately 50% of physics majors go on to masters and PhD programs in engineering, if not directly into engineering-related jobs. Statistics from American Physical Society also reveals that engineering is indeed a common career outcome of physics majors (see below).



- The proposed Engineering Physics program serves these students better and can be combined with other minors (Chem, CSCI, or Bio).
- Maker Space: Students interested in STEAM majors arrive with increasing technical literacy and expectations for a technology-enhanced education and hand-on learning. In recent years, a core community of Drew faculty and staff have advocated for the formation of a Maker Space to integrate technology with pedagogy that inspires creativity and complements the liberal arts education. The Engineering Physics program offers a gateway to drive the development of the Drew Makerspace. The pedagogy and interdisciplinary collaboration inherent to the Makerspace model align perfectly with LAUNCH:
  - Integration. Intentionally and strategically linking the Engineering Physics curriculum with technology-enhanced (3D printing, electronics, laser cutters) experiential learning opportunities that address contemporary problems in a multi-disciplinary way.
  - Immersive Experiences. Providing students with multiple and varied opportunities to experiment and test creative design skills and further develop their knowledge and skills in the context of engineering and design.
  - Community. Supporting the formation of interdisciplinary student cohorts, where students from various programs (including Engineering Physics, Physics, Chemistry, Biology, Computer Science and Studio Art) collaborate on projects with guidance from faculty, instructional technology staff and industry partners.

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.

The first 3 SLO's are identical to those of the current Physics B.A. degree. SLO4 and SLO5 are specific to Engineering Physics degree.

SLO1: Students should have sufficient knowledge and skills to solve problems in classical and modern physics, including mechanics, electricity and magnetism, electronics, mathematical physics and elective topics of each student's choosing.

SLO2: Students should be able to demonstrate mathematical competence, including

- Translating physics to mathematics (e.g., setting up problems, including visualizing problems and their parameters);
- Using mathematics to solve physics problems with insight (e.g., manipulating and solving equations; making approximations; checking limits; etc.);
- Having conceptual and physical understanding of mathematics (e.g., making sense of equations and problem solutions; connecting the math to the physics).

SLO3: Students should be able to communicate scientific concepts in written form.

SLO4: an ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.

SLO5: an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments.

Note: We think SLO5 would be an important and distinguishing feature of our curriculum, and are considering how to deliver it at multiple points.

3. Major/Program curriculum and requirements.

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

A major in Engineering Physics is designed to provide an ideal pathway for students interested in a career in engineering. As such, the core curriculum is built around the physics, mathematics, chemistry and computer sciences courses, which are the prerequisite courses for dual degree programs and form the foundational knowledge of engineering. This proposal also seeks to create specific engineering courses to distinguish this major for pre-engineering pathways at competitor institutions.

Special consideration is given for those pursuing the 3+2 Dual Degree program (e.g., with Columbia University and Washington University in St. Louis). The introductory courses satisfy typical pre-requisites for the 3+2 program. (n.b. ECON 101 is also a 3+2 pre-requisite but is not included in this major.) One major challenge for 3+2 students is that they must currently take summer classes or 20 credit semesters to complete all requirements for this program.

The curriculum is also designed to provide courses that specifically develop engineering practices to distinguish our program from physics majors offered by peers and competitors. Toward this aim, we are proposing to create a new course, "Principles of Engineering" (tentative title) and a series of Topics in Engineering (e.g., Biomedical Engineering taught by Judith Redling), as well as a new two-credit Engineering Project capstone. We are also reframing several existing courses to articulate their direct applicability for engineering (e.g., renaming "Mathematical Physics" course as “Mathematical Methods for Scientists and Engineers.”).

Considerations for General Education:
Four "GenEd requirement" slots are included in the plan, so that students can satisfy the remaining BHUM, BART, DVUS and DVIT and one WI requirements. The other requirements are met by ECON-101 or 102 [BSS], PHYS-250 [WI], PHYS-321 [BI], as well as BNS and 2 Q's with other courses.

Considerations for total number of credits:
The total credits are 98, and the remaining credits must be back-transferred, if the student enrolls in a 3-2 engineering program.

Considerations for Intermediate and Upper-level Credits:
- Upper-level credits [32 required] = 22 (PHYS-304/305, 301, 321, MATH-315, Elective (must be 3xx), PHYS-4xx) + 10 more credits (from advanced courses in the 3-2 program or GenEd).
- Intermediate or upper-level credits [64 required] = 52 = 32 upper-level + 20 intermediate-level (PHYS-250, 255, MATH-250, Principles of Engineering, Third language). + 12 more credits (GenEd or back-transfer from the 3-2 program).

The following table maps a pathway for completing the major, general education requirements, and the 3+2 engineering requirements **without** the need to take summer courses or 20 credits in a semester. (With the two credit capstone, the final semester will require 18 credits.) With certain physics courses running every other year, the exact sequencing would depend on when a student starts the program. The courses that are highlighted in **red bold** are offered every other year, so the students starting on an odd year will take PHYS-305, instead of PHYS-304. Both courses will deliver equivalent experience of experimental design, instrumentation, data analysis and team work. PHYS-301 may be taken either in the second or third year.

For students with an even year start:

Year	**fall**	**spring**
1	Drew Seminar PHYS 150 - Univ. Physics I [BNS, Q] MATH 150 - Calculus I Language requirement	PHYS 160 - Univ. Physics II MATH 151 - Calculus II CSCI 149/150/151 - Computer Science Language requirement
2	MATH 250 - Calculus III PHYS 250 - Modern Physics (WI) PHYS 255 - Electronics Language requirement	MATH 315 - Differential Equations **PHYS 301 - Mechanics** **PHYS 304 - Advance Lab I (WMJR)** Gen Ed requirement
3	ECON 101 or 102 [BSS, Q] PHYS 321 - Math Methods [BI] PHYS 270 - Principles of Engineering GenEd requirement	CHEM 150/151 - Chemistry I Engineering Elective GenEd requirement GenEd requirement PHYS 40X (2 credit capstone)

For students with an odd year start:

Year	**fall**	**spring**

1	Drew Seminar PHYS 150 - Univ. Physics I [BNS, Q] MATH 150 - Calculus I Language requirement	PHYS 160 - Univ. Physics II MATH 151 - Calculus II CSCI 149/150/151 - Computer Science Language requirement
2	MATH 250 - Calculus III PHYS 250 - Modern Physics (WI) PHYS 255 - Electronics Language requirement	MATH 315 - Differential Equations **PHYS 305 - Advance Lab II (WMJR)** GenEd requirement GenEd requirement
3	ECON 101 or 102 [BSS, Q] PHYS 321 - Math Methods [BI] PHYS 270 - Principles of Engineering GenEd requirement	CHEM 150/151 - Chemistry I **PHYS 301 - Mechanics** Engineering Elective GenEd requirement PHYS 40X (2 credit capstone)

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).*

ENGINEERING PHYSICS

A major in Engineering Physics major is designed to provide an ideal pathway for students interested in a career in engineering. The core curriculum is built around the physics, mathematics, chemistry and computer science courses that form the foundational knowledge of engineering. This is not an ABET accredited program.

Requirements for the Major (62 credits)

I. Foundation Courses (24 credits)

- **PHYS 150 - University Physics I**
- **PHYS 160 - University Physics II**
- **CHEM 150 - Principles of Chemistry I OR**
- **CHEM 151 - Principles of Chemistry I, Advanced**
- **CSCI 149 - Introduction to Computer Science in JavaScript OR**
- **CSCI 150 - Introduction to Computer Science in Python OR**
- **CSCI 151 - Object-oriented programming in Java**
- **MATH 150 - Calculus and Analytic Geometry I**
- **MATH 151 - Calculus and Analytic Geometry II**

II. Advanced Courses (34 credits):

- **MATH 250 - Calculus and Analytic Geometry III**
- **MATH 315 - Differential Equations**
- **PHYS 270 - Principles of Engineering**
- **PHYS 250 - Modern Physics**
- **PHYS 255 - Electronics for Scientists and Engineers**
- **PHYS 301 - Mechanics**
- **PHYS 304 - Advanced Physics Laboratory I [WMJR] OR**
- **PHYS 305 - Advanced Physics Laboratory II [WMJR]**
- **PHYS 321 - Mathematical Methods for Scientists and Engineers**

- **PHYS 400 - Physics Seminar**

III. Engineering Elective (4 credits):

- **PHYS 279 - Topics in Engineering**
- **PHYS 379 – Advanced Topics in Engineering**
- **PHYS 304/305 - Advanced Lab I or II**
  (Students may take the second Advanced Lab as an elective.)
- **PHYS 330 - Electrodynamics**
- **PHYS 331 - Optics**
- **PHYS 332 - Thermal Physics**
- **MATH 303 - Linear Algebra**
- **CHEM 330 - Physical Chemistry**

Note: Students who are not continuing on to 3+2 Engineering program are recommended to take more upper-level courses in physics and related disciplines, such as mathematics, computer science, chemistry, biology, etc., so that they are well prepared to take on technical engineering tasks.

c. *Provide an Assessment Map showing where each SLO is Introduced, Practiced, and Mastered in the curriculum.*

Quick look-up of SLOs

- **SLO1:** Physics knowledge.
- **SLO2:** Math competence
- **SLO3:** Written communication.
- **SLO4:** Solve engineering problems.
- **SLO5:** Ethics.

Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO5
PHYS-150, 160: Intro Physics	I	I	I		
PHYS-113, 114: Intro labs	I	I	I	I	
MATH-150, 151: Calculus		I			
MATH-250		P			
CHEM-150: Intro. Chemistry	I		I		
CSCI-149/150/151: Programming				I	
PHYS-250: Modern Physics	P	P	P		
PHYS-301: Mechanics	M	M			
PHYS-255: Electronics	P	P		I, P	
PHYS-270: Principles of Engineering			M	I, P	I
PHYS-304/305: Adv. Lab [WMJR]	M	P	M		
MATH-315: Diff Eqn.		M			
PHYS-321: Math Methods		M			
Engineering Electives				P, M	P
PHYS-400: Capstone			M	M	M

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

Comparison with others

Drew University B.S. Major	Juniata Engineering Physics	St. Mary's Engineering Physics	Fordham Major/Program	Augustana Engineering Physics
62 credits	*63 credits*	*54 credits*	*79 credits*	*46 credits [~61 with 4/course]*
	Physics Seminar I (1)			Intro to Engineering (1)
Univ. Physics I (4)	Univ. Physics I (4)	Univ. Physics I (4)	Univ. Physics I (5)	Univ. Physics I (3)
Univ. Physics II (4)	Univ. Physics II (4)	Univ. Physics II (4)	Univ. Physics II (5)	Univ. Physics II, III (6)
Chemistry I (4)	Chemistry I (4)	Chemistry I (4)	Chemistry I (6)	Chemistry I (3)
	Chemistry II (4)	Chemistry II (4)	Chemistry II (6)	Chemistry II (3)
Comp Sci (4)	Comp Sci I (4) and Programming (2)	Comp Sci (3)		
Calculus I (4)	Calculus I (4)	Calculus I (4)	Calculus I (4)	Calculus I (3)
Calculus II (4)	Calculus II (4)	Calculus II (4)	Calculus II (4)	Calculus II (3)
Calculus III (4)	Calculus III (4)	Calculus III (4)	Multivariable Calc I (4)	Calculus III (3)
Differential Eq. (4)	Differential Eq. (4)		Multivariable Calc II (4)	
Math Methods (4)	Linear Algebra (3)	Linear Algebra (4)	Math Methods (4)	
	Physics Seminar II (1)		Patents/Inventions (1)	
Modern Physics (4)	Modern Physics (3)	Modern Phys w/ lab (4)	Modern Physics (4)	Modern Physics (3)
Electronics (4)	Modern Physics Lab (3)		Lab Methods (1)	Electronics (3)
	Physics Seminar III (1)		Elec. & Mag. (4)	EM (3)
Principles of Engineering (4)	Engineering Mech I (3)	Digital Systems w/ lab (4)		Eng. Design (3)
Mechanics (4)	Engineering Mech II (3)	Classical Mechanics (3)	Classical Mechanics (4)	[instead of Electronics of EM, take Mech.]

Advanced Lab (4)	Advanced Lab (3)	Advanced Lab I, II (2)	Experimental Meth (3)	Advanced Lab (3)
			Thermodynamics (4)	
Elective (4)	Elective (3)	Elective (3)	Elective (4)	Elective (3)
		Elective (3)	Elective (4)	
			Elective (4)	
Engineering Project (2)	Physics Seminar IV (1)		Elective (4)	Senior Inquiry (3)

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

Some of our comparison schools require 1 year of Chemistry sequence, whereas we propose to require only 1 semester. The reason for this choice was to keep the total number of credits low enough that students can complete the major as well as the General Education requirements within 3 years. In addition, both of Drew's 3+2 Engineering Dual Degree programs only require one semester of chemistry (except for chemical and biomedical engineering).

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.*

3-Year Projection of Courses

Most of the courses in the Engineering Physics are not new courses, and they are offered regularly by the physics, math, CSCI, and chemistry programs. The following table only lists those courses that are new or infrequently offered: PHYS-304/305 (Advanced Lab), new engineering courses, and PHYS-40x (Capstone).

Term	Course title	Instructor	New course (Y/N)	New hire (Y/N)
Fall 2019	n/a			
Sp. 2020	PHYS-304: Advanced Lab I	Murawski	N	
Fall 2020	n/a			
Sp. 2021	PHYS-305: Advanced Lab II	Larson	N	
Fall 2021	PHYS-270: Principles of Engineering	Kouh / Redling	Y	
Sp. 2022	PHYS-304: Advanced Lab I	Murawski	N	
	PHYS-279/379: Biomechanics	Redling	Y	

f. <u>Course Descriptions</u>: *Attach complete course proposal forms for each new or revised course included in the major/program. Also attach the Writing in the Major form for that course. 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:*

New:

- PHYS 270 - Principles of Engineering (4 credits): This course is designed for students interested in engineering. Students will learn fundamental engineering concepts and work on hardware as well as software projects in teams, developing their problem-solving skills. Prerequisite: Computer Programming (CSCI-149, 150, or 151), or permission of instructor.
- PHYS 279 -Topics in Engineering (2-4 credits): Special topics at intermediate level, chosen on the basis of instructor and student interest from various areas of engineering, such as mechanical, biomedical, optical, and materials engineering. Permission of instructor required for registration. Course can be repeated for credit as topic varies.
- PHYS 379 - Advanced Topics in Engineering (2-4 credits): Special topics at advanced level, chosen on the basis of instructor and student interest from various areas of engineering, such as mechanical, biomedical, optical, and materials engineering. Permission of instructor required for registration. Course can be repeated for credit as topic varies.
- PHYS 401 - Capstone Seminar in Engineering (2 credits): An engineering design experience for junior or senior students in Engineering Physics. Students will pursue different topics or projects, delivering a final product, prototype and/or presentation at the end of the semester. This course includes discussions on professional development and ethical considerations in engineering. Prerequisite: Engineering Physics major with junior or senior standing, or permission of instructor.

  Note on Engineering Capstone: Until enrollment for the Engineering Physics major is large enough to support separate capstone courses, there will be one capstone course for Physics (BA and BS) and Engineering Physics majors.

Revised:

- PHYS 255 (Electronics): New title "Electronics for Scientists and Engineers." It will be offered every fall, instead of alternate years, accommodating the expected higher enrollment and alleviating the overcrowding seen in the past few years.
- PHYS 321 (Mathematical Physics): New title "Mathematical methods for scientists and engineers" with minor update of the catalogue description.

Proposed changes are in bold.

PHYS 255 - Electronics **for Scientists and Engineers**
A laboratory course introducing electronic and instrumental techniques important in modern scientific and engineering experiments. Includes DC and AC circuits, test instruments, power supplies, transducers, operational amplifiers, basic digital devices, circuit simulation, and use of integrated circuits with strong emphasis on applications. Intended to provide background for advanced laboratory work. The format is combined lectures and lab. Meets six hours per week. Prerequisite: PHYS 160 and MATH 151. **~~Offered fall semester annually.~~**

PHYS 321 - Mathematical ~~Physics~~ **Methods for Scientists and Engineers**
An introduction to mathematical and computational methods used in solving problems in sciences and engineering. Complex algebra. Fourier series. Series solutions of differential equations. The partial differential equations of physics. Special functions and topics. Prerequisite: PHYS 150 or permission of instructor; and MATH 315. Same as: MATH 325. Offered fall semester annually. CLA-Breadth/Interdisciplinary

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?

Most of the courses in Engineering Physics curriculum are already regularly offered to serve Physics, Math, Chemistry, CSCI, and other majors. However, some new offerings would require additional staffing, which may partially be absorbed through the increased faculty teaching loads (3x3) or may require an adjunct faculty occasionally.

The following courses will be taken by students in their third (or fourth) year in the Engineering Physics program, so the new staffing will be needed starting in Academic Year 2021-2022.

- [4 credits every year] PHYS 270 (Introduction to Engineering) will be initially developed by Judy Redling and Minjoon Kouh. Judy has the background in Engineering Physics, and Minjoon has developed and taught an introductory robotics course. The future offerings may be taught by a practicing engineer as an adjunct faculty. (IN 3 YEARS)
- [4 credits every year] PHYS 279 or 379 (Topics in Engineering) will require additional staffing. Initially, Judith Redling will offer a course in biomechanics or another topic in engineering. It may also be taught by adjunct or existing faculty. (IN 3 YEARS)
- [2 credits every year] PHYS 40x (Capstone Seminar in Engineering) will require additional staffing. The instructor will guide capstone projects, coordinate discussions, and host speakers as needed. However, until the enrollment for the Engineering Physics major becomes large enough to require a separate capstone, all physics majors (Physics BA, BS, and Engineering Physics BS) will take the same capstone seminar.

In addition, the anticipated enrollment would require running PHYS-255 (Electronics) every year, instead of offering every other year. The ideal size of this laboratory course is ~14 students, and in the past few offerings, it has been crowded with 16+ students. The annual offering will also provide extra flexibility for students to complete this requirement in their second or third year.

We would also like to develop partnerships with local industries, creating pipelines for instructors for engineering courses and (maybe even) internships for students.

Also, it would be desirable to run 1-credit Engineering Seminar for the first-year students.

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?

Many of the core courses in the program are already offered through Math, CS, Chemistry, and Physics programs. We anticipate that the new Engineering Physics major will attract more students to Drew and increase enrollments in those courses. However, we do not anticipate disruptively large impacts.

Engineering Physics curriculum and its associated activities would be a vehicle for collaborative projects across disciplines. For example, students could design and create arts in the Maker Space.

5. **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 meets the goals and outcomes defined by external organizations. It may be helpful to attach any relevant documents from these organizations in an Appendix.

   This major is aligned with the dual degree requirements for engineering programs. The additional SLOs are based on learning outcomes described by ABET, the accrediting body for engineering schools.

NEW MAJOR/PROGRAM ANALYSIS

STUDENT INTEREST AND PROGRAM FINANCES

9. **Explain how the major / program meets the strategic goals of the university and the school:**

The new program in Engineering Physics is aligned with the strategic goals of increasing enrollments and providing diverse, quality programs.

10. **Proposed tuition and discount rate (for CSGS & THEO Programs):**

    Please contact the Associate Vice President for Graduate Enrollment for this information.

    n/a

11. **Describe and comment on the expected market for the proposed major / program:**

    Many students (both domestic and international) come to Drew with interests in Engineering-related careers, and this major will provide the right kinds of academic experiences.

12. **Provide evidence of market demand, including national, state, local, disciplinary or other sources:**

Institution	CIP	CIP Title	2012	2013	2014	2015	2016	3 yr avg
Augustana College	14.1201	Engineering Physics	1	3	6	6	9	7
Augustana College	40.0801	Physics, General.	3	3	3	2	2	2
Elon University	14.1201	Engineering Physics	4	1	4	5	9	6
Elon University	40.0801	Physics, General.	7	3	6	7	8	7
Juniata College	14.1201	Engineering Physics	2	4	5	3	2	3

Juniata College	40.0801	Physics, General.	5	8	4	7	5	5
Drew University	40.0801	Physics, General.	2	7	1	7	6	5

13. Enter expected annual enrollment in program (e.g., new students per year) and provide a justification/rationale for these estimates:

Recruitment for 2019-20 will be limited given the timing of when this major would appear on the website and in the catalog. Based on the number of degrees conferred at the three peer institutions that have both physics and engineering physics majors, we expect that the number of new majors will ultimately match the number of current physics majors. Thus, we expect this program to attract 3-5 new students for each class. The creation of industry "pipelines" (i.e., arranging for local industry engineers to teach special topics class related to their industry) along with creating new combined degree programs will help ensure these targets are met or exceeded.

Year	Majors	Graduates
2019-20	2	0
2020-21	5	0
2021-22	8	0
2022-23	10	3

Many INTO students come to Drew with the intention of pursuing engineering through a dual-degree 3-2 program (e.g., with Columbia), and we expect that some of those students would find the new Engineering Physics program to be an appealing alternative to transferring to other schools.

14. Anticipated start-up costs:

- We do not expect any major start-up costs, since no new lab equipment is required.
- Starting in the third year, additional staffing will be required to run a few new courses: Intro to Engineering, Topics in Engineering, and Engineering Capstone.
- As this new program becomes successful and grows in size, there will have to be a dedicated laboratory/studio/Maker space for the project-based courses. The new space will be interdisciplinary and help to draw prospects, since many peer and aspirant schools already have such Maker Spaces. A medium-sized classroom with an easy access would be ideal.
- To realize the potential of the program, some investments will be needed in the future, such as latest CAD or Matlab/Labview software, fabrication equipment (e.g., 3D printers), computers, as well as faculty development costs (workshops).

15. Anticipated annual program costs (including adjunct, library, and lab staffing) (use chart):

#3.Physics Major (B.A. /B.S.)

Proposals for Revision of an Existing Major

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 physics department proposes to offer both B.S. and B.A. tracks in physics.

- B.S. track is recommended for students pursuing a graduate degree in physics or a related area (natural sciences, math and engineering). What Drew has already been offering as Physics B.A. will be designated as the new Physics B.S degree with an additional requirement of computer programming (CSCI-149, 150, or 151). This designation is consistent with a comparison to B.S. programs at peer and aspirant schools.
- B.A. track is recommended for student pursuing a career in science education (high school), science policy or communication, law, medicine, finance, etc. This track is more flexible with less total number of credits and with opportunities to explore physics more broadly.

This distinction between "focused" and "flexible" degrees is comparable with what some of our peer schools offer (please see the comparison tables below). The following tables compare the proposed degrees to two aspirant institutions, Denison University and Gettysburg College. Another aspect of the revision involves updates of catalogue descriptions. Also, there will be an accompanying new major proposal for Engineering Physics B.S degree.

Table 1. Benchmarking of proposed B.S. degree in Physics

Proposed Drew - B.S.	**Denison - B.S.**	**Gettysburg - B.S.**
62 credits	*62 credits*	*64 credits*
PHYS 150 - Univ. Physics I	Principles of Physics I	111 Intro Modern Physics I
PHYS 160 - Univ. Physics II	Principles of Physics II	112 Intro Modern Physics II
	Principles of Physics III	211 Intermediate Physics
MATH 150 - Calculus I	Calculus I	Calculus I
MATH 151 - Calculus II	Calculus II	Calculus II
CSCI 149/150/151	MATH or CSCI 200 or higher	
MATH 250 - Calculus III	Multivariable Calculus	211 Multivariable Calculus
MATH 315 - Diff Equations		225 Differential Equations
PHYS 250 - Modern Physics	200 Modern Physics	310 Intro. Quantum Mech
PHYS 255 - Electronics	211 Electronics	PHYS 2XX or higher - Elective
PHYS 301 - Mechanics	305 Classical Mechanics	PHYS 2XX or higher - Elective
PHYS 304/305 - Advanced Lab	312 Experimental Physics	Advanced Lab Course
PHYS 321 - Math Physics	201 Applied Math	255 Math Tech for Physics
PHYS 3XX - Elective	330 Quantum Mechanics	PHYS 3XX - Elective
PHYS 3XX - Elective	306 Electricity & Magnetism	PHYS 3XX - Elective
PHYS 3XX - Elective	PHYS 2XX or higher - Elective	PHYS 3XX - Elective
	Independent Project plus Comprehensive Exam	
PHYS 400 - Physics Seminar	Physics 400 (2 credits)	Research

Table 2. Benchmarking of proposed B.A. degree in Physics

Drew - B.A. Major	**Denison - B.A.**	**Gettysburg B.A.**
54 credits	*50 credits*	*52 credits*
PHYS 150 - Univ. Physics I	Principles of Physics I	111 Intro Modern Physics I
PHYS 160 - Univ. Physics II	Principles of Physics II	112 Intro Modern Physics II
	Principles of Physics III	211 Intermediate Physics
MATH 150 - Calculus I	Calculus I	Calculus I
MATH 151 - Calculus II	Calculus II	Calculus II
MATH 250 - Calculus III	Multivariable Calculus	211 Multivariable Calculus
PHYS 250 - Modern Physics	200 Modern Physics	310 Intro to Quantum Mech
PHYS 255 - Electronics	211 Electronics	
MATH 315 - Diff Equations	201 Applied Math	255 Math Tech for Physics
PHYS 301 - Mechanics	305 Classical Mechanics	
PHYS 304/304 - Advanced Lab	312 Experimental Physics	Advanced Lab Course
PHYS 1XX or higher - Elective		PHYS 2XX or higher - Elective
PHYS 2XX or higher - Elective	PHYS 2XX or higher - Elective	PHYS 2XX or higher - Elective
PHYS 3XX - Elective		PHYS 3XX - Elective
	Independent Project	
PHYS 400 - Physics Seminar	Physics 400 (2 credits)	Research

II. Learning Objectives

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

For the new B.S. degree, there are no changes to the student learning outcomes, since this curriculum remains unchanged with regard to required physics courses.

SLO1: Students should have sufficient knowledge and skills to solve problems in classical and modern physics, including mechanics, electricity and magnetism, electronics, mathematical physics and elective topics of each student's choosing.

SLO2: Students should be able to demonstrate mathematical competence, including

- Translating physics to mathematics (e.g., setting up problems, including visualizing problems and their parameters);
- Using mathematics to solve physics problems with insight (e.g., manipulating and solving equations; making approximations; checking limits; etc.);
- Having conceptual and physical understanding of mathematics (e.g., making sense of equations and problem solutions; connecting the math to the physics).

SLO3: Students should be able to communicate scientific concepts in written form.

For the new B.A. major, we propose keeping SLO2 and SLO3 the same as the B.S. degree and slightly revising SLO1 by removing "mathematical physics."

SLO1: Students should have sufficient knowledge and skills to solve problems in classical and modern physics, including mechanics, electricity and magnetism, electronics, and elective topics of each student's choosing.

III. Proposed Changes to the Curriculum

a. Explain each proposed change to the major individually;

- B.S. degree in Physics: It is almost identical to the current physics major, except for the addition of a computer science course (CSCI-149/150/151). Most physics majors have already been taking one of those courses, so the department is formally highlighting the relevance and importance of computer programming skills in the field of physics.

The department has discussed the options of keeping the total credits for physics B.S. at 58 credits versus increasing it by 4 credits, and still prefers the current proposal at 62 total credits, because it closes a gap that has existed for a long time. For perhaps the last 30 to 40 years, it has been broadly considered quite appropriate in the physics community that students should be able to use scientific computing in their work. The physics department has begun addressing our previous oversight, by increasing slightly and gradually the extent to which computers are used in physics courses. With this proposal, we are simply addressing the prior oversight more systematically, by making use of the excellent existing computer science courses at Drew. According to the 2018 report by JTUPP (Joint Task Force on Undergraduate Physics Programs), convened by American Physical Society and American Association of Physics Teachers, computer programming was identified most common by the physics graduates as something that they wished they had learned in their degree programs. A group of recent Drew physics alums also agreed that computer programming is one of the most important skills for physics graduates to have for science/engineering-related careers. (c.f., Quote from JTUPP Report "Phys21: Preparing Physics Students for 21st Century Careers" on page 69: "By far the most common thing that participants [physics graduates] wish they could have learned in their degree programs was programming. Participants almost universally perceive programming skills as highly valued in the job market. One said, "'Programming is everything.” Many wish they could have taken more courses in numerical analysis, computational physics, or computer science."

- B.A. degree in Physics: This is a new physics track that provides more flexibility and emphasizes broad exposure to the discipline of physics. The proposed BA in physics is smaller than the BS: 54 credits instead of 58 credits (current Physics BA) or 62 credits (newly proposed Physics BS). This would allow students in the BA program to have more flexibility in choosing courses outside of physics; they can more easily pursue other interest, for example in a minor or even a double major. In addition, there is also a second kind of flexibility in this program, in that the variety of physics courses to choose from is broader than in the BS. Our thinking is that students in this track may wish to pursue a broader and more varied path than those on the BS track. For example, students in the BS track may, in many cases, be preparing for graduate school in physics, and will therefore need the traditional coursework. However, the BA track would allow students with a wider range of objectives to choose courses more freely. For examples, students who might later become high-school science teachers might find in useful to take Astronomy (PHYS-101, PHYS-102) or How Things Work (PHYS-103). Students with other interests, such as pre-health-professions or pre-law would similarly have more flexibility in choosing courses like Physics in Modern Medicine (PHYS-105) that would suit their interests better than the traditional graduate school preparation track. We also note that a significant part of physics education is the development of mathematical skills, and accordingly, 12 credits (in physics BA) and 16 credits (in physics BS) come from math courses.

- PHYS-305 (Advanced Physics Laboratory II) can be taken with the permission of instructor without taking PHYS-304 (Advanced Physics Laboratory I), so that students can complete the major through either course. PHYS-305 already includes similar writing experiences as PHYS-304 (e.g., lab notebook, final report, and presentation), so this course will also satisfy Writing in the Major requirement for physics. The course content will not be significantly affected.

b. Provide comparison between new major and old major;

- B.S. degree in Physics: (compared to old Physics major)
  - New major requires a course in computer science.
  - Either PHYS-304 or 305 satisfies the core requirement.
- B.A. degree in Physics: (compared to old Physics major)
  - New major does not require PHYS 321 - Mathematical Physics
  - New major allows broader exposure to physics, by allowing PHYS-1xx or PHYS-2xx to meet the electives requirements.
  - New major requires less number of total credits, so that students can explore other areas of study.

Table 3. Comparison of the current versus the new.

Drew - Current Major	**Proposed Drew - B.A. Major**	**Proposed Drew - B.S. Major**
58 credits	*54 credits*	*62 credits*
PHYS 150 - Univ. Physics I	PHYS 150 - Univ. Physics I	PHYS 150 - Univ. Physics I
PHYS 160 - Univ. Physics II	PHYS 160 - Univ. Physics II	PHYS 160 - Univ. Physics II
MATH 150 - Calculus I	MATH 150 - Calculus I	MATH 150 - Calculus I
MATH 151 - Calculus II	MATH 151 - Calculus II	MATH 151 - Calculus II
		CSCI 149/150/151
MATH 250 - Calculus III	MATH 250 - Calculus III	MATH 250 - Calculus III
PHYS 250 - Modern Physics	PHYS 250 - Modern Physics	PHYS 250 - Modern Physics
PHYS 255 - Electronics	PHYS 255 - Electronics	PHYS 255 - Electronics
MATH 315 - Diff Equations	MATH 315 - Diff Equations	MATH 315 - Diff Equations
PHYS 301 - Mechanics	PHYS 301 - Mechanics	PHYS 301 - Mechanics
PHYS 304 - Advanced Lab I	PHYS 304/305 - Advanced Lab I or II	PHYS 304/305 - Advanced Lab I or II
PHYS 321 - Math Physics		PHYS 321 - Math Physics
PHYS 3XX - Elective	PHYS 1XX or higher - Elective	PHYS 3XX - Elective
PHYS 3XX - Elective	PHYS 2XX or higher - Elective	PHYS 3XX - Elective
PHYS 3XX - Elective	PHYS 3XX - Elective	PHYS 3XX - Elective
PHYS 400 - Physics Seminar	PHYS 400 - Physics Seminar	PHYS 400 - Physics Seminar

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.

PHYSICS (B.S.)
Requirements for the Major (62 credits)

I. Core (50 credits)

- PHYS 150 - University Physics I
- PHYS 160 - University Physics II
- PHYS 250 - Modern Physics
- PHYS 255 - Electronics
- PHYS 301 - Mechanics
- PHYS 304 - Advanced Physics Laboratory I [WMJR] **OR**

- PHYS 305 - Advanced Physics Laboratory II [WMJR]
- PHYS 321 - Mathematical Physics
- PHYS 400 - Physics Seminar
- MATH 150 - Calculus and Analytic Geometry I
- MATH 151 - Calculus and Analytic Geometry II
- MATH 250 - Calculus and Analytic Geometry III
- MATH 315 - Differential Equations
- CSCI 149, 150, or 151 - Introduction to Computer Science

II. Electives (12 credits)

- PHYS 304 - Advanced Physics Laboratory I **OR**
- PHYS 305 - Advanced Physics Laboratory II
  (Students may take the second Advanced Lab as an elective.)
- PHYS 330 - Electrodynamics
- PHYS 331 - Optics
- PHYS 332 - Thermal Physics
- PHYS 360 - Quantum Mechanics
- PHYS 229 - Special Topics in Physics
- PHYS 329 - Special Topics in Physics

At least 4 credits must be from the following list: PHYS 330, 332, 360.

III. Optional

- PHYS 200 - Independent Study/Research in Physics
- PHYS 300 - Independent Study/Research in Physics
- PHYS-200 and 300 would NOT count toward physics major or minor.

Notes:
For students also majoring in Mathematics, PHYS 150, MATH 150, MATH 151, MATH 250, and eight additional intermediate- or upper-level credits may count for both majors.

PHYS 330 and PHYS 360 are essential for students intending to attend graduate school in physics. Additional physics, mathematics, computer science, chemistry, and independent study are recommended after consultation with the academic advisor.

==

PHYSICS (B.A.)

Requirements for the Major (54 credits)

I. Core (42 credits)

- PHYS 150 - University Physics I
- PHYS 160 - University Physics II
- PHYS 250 - Modern Physics
- PHYS 255 - Electronics
- PHYS 301 - Mechanics

- PHYS 304 - Advanced Physics Laboratory I [WMJR] **OR**

- PHYS 305 - Advanced Physics Laboratory II [WMJR]

- PHYS 400 - Physics Seminar
- MATH 150 - Calculus and Analytic Geometry I
- MATH 151 - Calculus and Analytic Geometry II
- MATH 250 - Calculus and Analytic Geometry III
- MATH 315 - Differential Equations

II. Electives (12 credits)
Students must take an additional 12 credits of electives. At least 8 credits must be at the intermediate or upper level, and at least 4 credits must be at the upper level.

- PHYS 101 - Introductory Astronomy - The Solar System
- PHYS 102 - Introductory Astronomy - Stars, Galaxies, and the Cosmos
- PHYS 103 - How Things Work
- PHYS 104 - Physics in Modern Medicine
- PHYS 105 - Building and Programming Robots
- PHYS 229 - Special Topics in Physics
- PHYS 265 - Energy and Environment
- PHYS 270 - Principles of Engineering
- PHYS 279 - Topics in Engineering

- PHYS 304 - Advanced Physics Laboratory I **OR**
- PHYS 305 - Advanced Physics Laboratory II
  (Students may take the second Advanced Lab as an elective.)

- PHYS 321 - Mathematical Physics
- PHYS 329 - Advanced Topics in Physics
- PHYS 330 - Electrodynamics
- PHYS 331 - Optics
- PHYS 332 - Thermal Physics
- PHYS 360 - Quantum Mechanics
- PHYS 366 - Computational Modeling of Neural Systems
- PHYS 379 - Advanced Topics in Engineering

Notes:
For students also majoring in Mathematics, PHYS 150, MATH 150, MATH 151, MATH 250, and eight additional intermediate- or upper-level credits may count for both majors.

Students must consult with the physics department when deciding between Physics B.S. and Physics B.A. degrees.

==

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 but this major revision? Does the proposed major offer increased possibilities for interdisciplinary collaboration?

It is expected that there will be no significant impact on other departments. There is a new requirement for computer programming (CSCI-149/150/151), but most physics majors have already been taking those courses.

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.
The proposed change would not affect the current students significantly, because the current degree requirement is identical to the new Physics B.S., except for the addition of one computer science course.

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

n/a

VII. Course Proposals
Attach complete course proposal forms for each new and revised course included in the revised major.

#4. Biology major (B.A. /B.S.)

Proposals for Revision of an Existing Major

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 biology department proposes to offer both B.S. and B.A. tracks in biology.

- B.S. track is recommended for students pursuing a graduate degree in biology or a related life science area or students interested in pursuing lab or field technician careers in industry. Because this track requires more cognate science courses, it is ideal for students who plan to utilize multiple scientific disciplines to study the life sciences. Also, with the emphasis on laboratory experiences, students who pursue this track will have more technical expertise which will give them an advantage to pursue careers in industry.
- B.A. track is recommended for students pursuing a career in science education (high school), science policy or communication, law, finance, etc or who wish to explore biology more broadly. Because this track has fewer credits, it makes it easier for students to double major outside of the sciences and adds flexibility for transfer students to complete the major. Also, because this track allows more non laboratory courses to count as electives, students who pursue this track will be able to develop more scientific literacy skills.

The biology department examined a number of comparison schools to benchmark these revisions and it was clear that there are a wide variety of ways in which schools structure their biology majors.

For example, we looked at Denison, Gettysburg, Eckerd, and Furman and their B.A. biology majors ranged from 40-56 credits and their B.S. biology majors ranged from 56-64 credits. Our proposal will take our existing B.A. biology major at 52 credits and make the new B.A. biology major 48 credits and the B.S. biology major 56 credits. These sizes are all within the range of our peer schools. The number of cognate science credits in our peer schools ranged from 0-16 credits for their B.A. majors, and from 16-24 credits for their B.S. majors. Our proposal will take our existing B.A. biology major from having 16 cognate science credits to 12 cognate science credits for the new B.A. major and 20 cognate science credits for the new B.S. major. These requirements are all within the range of our peer schools.

Besides designing the B.A. and B.S. tracks to fit within the benchmarking data, the biology department used the following principles. (1) We needed to be able to offer these tracks without adding additional courses to our faculty workload and with the understanding that our budget most likely will be decreasing over the next several years. (2) Biology students increasingly need to be proficient in multiple disciplines to be successful in both the workplace and in graduate and professional schools. (3) The biology department wanted to ensure that these tracks would give students extra flexibility as they considered connecting their biology degree with other academic areas, either through a double major or additional minors. (4) Given the needs of biology students to utilize statistical analysis, the department wanted to include introduction to statistics as a component for both tracks. (5) Finally, the biology department realizes the importance to prepare students to begin their career paths, so we are actively encouraging internships by allowing students to include one to count towards their elective credit in biology.

II. Learning Objectives

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

There are no changes to the learning objectives for the B.S. track. However, since the B.A. track has one fewer laboratory course required in the electives, we propose not requiring SLO 8 for the B.A. track.

SLO 1: Demonstrate mastery of core concepts and competencies of biology
SLO 2: Exhibit scientific literacy: summarize the main findings of primary sources
SLO 3: Exhibit scientific literacy: identify and evaluate the credibility of scientific sources
SLO 4: Exhibit scientific literacy: interpret data from the scientific literature
SLO 5: Data analysis: visualize data into effective and appropriate format
SLO 6: Data analysis: explain how data addresses biological phenomena
SLO 7: Data analysis: Analyze biological data using appropriate statistical tools (to test claims and draw valid conclusions)
SLO 8: Research: Design effective biological research experiments (formulate hypotheses, select appropriate methodology) (only for B.S.)

III. Proposed Changes to the Curriculum

d. Explain each proposed change to the major individually;

- Both the B.A. and the B.S. tracks will require Introduction to Statistics/ MATH 117. Nearly all biology subfields require statistical analysis. Since nearly all biology majors currently take MATH 117, this should not present much challenge to the math department for staffing.

- INTC 200 (Internship project) can be taken for 2 credits to be applied to the B.A. and the B.S. biology major as "Intermediate or Upper Level Course work" if the faculty evaluator of the internship paper is a biology faculty member. This addition to the biology electives is for two reasons. First, the new Launch program is emphasizing career development, and allowing biology majors to count an internship as part of the major aligns with this direction. Second, because the biology capstone is 2 credits, biology majors sometimes are in the circumstance of being 2 credits short of the total number of credits needed at the intermediate and upper level (a total of 24) and rarely do biology courses count for just 2 credits. So this addition will give biology majors greater flexibility. Otherwise, students would have to enroll in an additional 4 credit class or take research for 2 credits.

- B.A. degree in Biology: It is similar in structure to the current biology major, with Four modifications. First, the total number of cognate science courses would be reduced by 1. By having slightly fewer cognate science courses, students will more easily be able to double major in a discipline outside of the sciences. For example, a biology student who wishes to pursue law school with an emphasis on the pharmaceutical industry, may find that combining biology and political science will allow them to gain the knowledge necessary to be successful. Second, in the section of 24 credits of Intermediate and Upper Level Course work, the number of labs would be reduced by 1. Some of the biology course electives do not have laboratories and these courses allow students to devote more of their course time to critical reading and writing which can improve skills necessary in a broad array of careers. Third, the number of Upper-Level credits would be reduced from 16 to 14 (note the total number of credits in this category remains the same at 24). The reduction in the number of upper level credits will give added flexibility for these students to purse internships as they consider their career paths (see the second bullet point). Fourth, MATH 117 will be required (see first bullet point).

- B.S. degree in Biology: It is almost identical to the current biology major, with just three modifications. First, the total number of cognate science courses would be increased by 1. By having slightly more cognate science courses, students will be able to emphasize learning a greater diversity of scientific skills. Most biology graduate schools and health professions schools require students to have been exposed to a broad range of scientific skills. For example, most medical schools require 5 semesters of chemistry, 2 semesters of physics, 1-2 semesters of math, as well as biology. Second, MATH 117 will be required (see first bullet point). Third, students would be allowed to utilize an internship in biology as an elective (see second bullet point), which will encourage students to consider how their biology degree will help them in the workforce.

Provide comparison between new major and old major;

- B.S. degree in Biology: (compared to old Biology major)
    - Requires an additional cognate science course (goes from 4 to 5).
    - Requires MATH 117 as one of the cognate science courses.
- B.A. degree in biology: (compared to old Biology major)
    - Requires one less cognate science course (goes from 4 to 3).
    - Requires MATH 117 as one of the cognate science courses.
    - Requires one less lab course (goes from 4 to 3), though total elective credits remain the same.
    - Requires 2 less credits at the upper level (goes from 16 to 14).

Table 3. Comparison of the current versus the new.

	Current Major	**Proposed BA**	**Proposed BS**
Cognate Courses	Take 2 semesters of general chemistry. Take 2 additional courses from a list of Statistics, Calculus, Org Chemistry, and Physics	Take 2 semester of general chemistry. Take 1 semester of Statistics.	Take 2 semesters of general chemistry. Take 1 semester of Statistics. Take 2 additional courses from a list of Intermediate Statistics, Calculus, Org Chemistry, and Physics
Intermediate and Upper level Course Work (24 credits): lab requirement	4 of the elective courses need to be lab courses	3 of the elective courses need to be lab courses	4 of the elective courses need to be lab courses
Intermediate and Upper level Course Work: Upper level credit requirement	16 of the 24 credits must be at the upper level (this may include capstone)	14 of the 24 credits must be at the upper level (this may include capstone)	16 of the 24 credits must be at the upper level (this may include capstone)
Total Credits in Major	52	48	56

e. 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.

Biology (B.S.)
Requirements for the Major (56 credits)

I. Required Courses (32 credits)

- BIOL 150 - Ecology and Evolution
- BIOL 160 - Diversity of Life: Animals, Plants, and Microbes
- BIOL 250 - Molecular and Cellular Biology
-
- 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
- MATH 117 - Introductory Statistics

Two additional courses from the following:

- CHEM 250 - Organic Chemistry I
- CHEM 350 - Organic Chemistry II
- MATH 150 - Calculus and Analytic Geometry I
- MATH 151 - Calculus and Analytic Geometry II

- MATH 227 - Intermediate Statistics
- PHYS 111 - Introductory Physics I **OR**
- PHYS 150 - University Physics I
-
- PHYS 112 - Introductory Physics II **OR**
  PHYS 160 - University Physics II

II. Intermediate and Upper Level Course work (24 credits)

Students must take an additional 24 credits at the intermediate or upper level from among the following, including at least 2 credits at the 400 level to provide a capstone experience during their senior year. At least 16 credits (which may include the capstone) must be at the upper level, and at least 4 courses must have labs.

The first four credits of independent laboratory or field research (BIOL 296, 396, 404, 410, 411; CHEM 360; NEUR 296, 396) can be counted as one lab course; additional credits are counted as non-lab electives. No more than 8 credits of independent research can count toward the major (BIOL 294, 296, 396, 402, 404, 410, 411; CHEM 360; NEUR 294, 296, 396). No more than 2 credits of internship/ INTC 200 can count towards the major, and a biology faculty member must be the faculty evaluator.

- BIOL 215 - Environmental Science
- BIOL 250 - Molecular and Cellular Biology
- BIOL 252 - Microbiology
- BIOL 256 - Anatomy and Physiology I
- BIOL 258 - Anatomy and Physiology II
- BIOL 270 - Topics in Biology
- BIOL 294 - Intermediate Independent Research in Biology: Literature Research
- BIOL 296 - Intermediate Independent Study in Biology: Laboratory/Field Research
- BIOL 302 - Geographic Information Systems
- BIOL 308 - Conservation Biology
- BIOL 312 - Evolutionary Genetics
- BIOL 314 - Animal Behavior
- BIOL 318 - Freshwater Ecology
- BIOL 320 - Tropical Marine Ecology
- BIOL 322 - Primatology
- BIOL 324 - Forest Ecology
- BIOL 330 - Emerging Infectious Disease
- BIOL 338 - Ornithology
- BIOL 344 - Endocrinology
- BIOL 346 - Systems Neurobiology
- BIOL 348 - Immunology
- BIOL 356 - Cell and Molecular Neurobiology
- BIOL 358 - Diseases of the Brain
- BIOL 360 - Molecular Biology of Cancer
- BIOL 362 - Virology
- BIOL 364 - Advanced Cellular Biology
- BIOL 368 - Molecular Genetics
- BIOL 370 - Topics in Biology
- BIOL 390 - Seminar in Biology
- BIOL 394 - Advanced Independent Research in Biology: Literature Research
- BIOL 396 - Advanced Independent Research in Biology: Laboratory/Field Research
- CHEM 360 - Foundations in Biochemistry

- CHEM 365 - Foundation in Biochemistry without Laboratory
- INTC 200 – Internship Project in Biology
- NEUR 296 - Intermediate Independent Research: Laboratory/Field Research
- NEUR 394 - Advanced Independent Study in Neuroscience: Literature Research
- NEUR 396 - Independent Research in Neuroscience: Laboratory/Field Research
- PH 340 - Epidemiology

III. Capstone Work to be completed senior year (credits included as part of Upper Level coursework)

- BIOL 400 - Biology Capstone: Seminar
- BIOL 402 - Biology Capstone: Literature Research
- BIOL 404 - Biology Capstone: Laboratory and Field Research
- BIOL 410 - Specialized Honors I
- BIOL 411 - Specialized Honors Research II

==

Biology (B.A.)

Requirements for the Major (48 credits)

I. Required Courses (24 credits)

- BIOL 150 - Ecology and Evolution
- BIOL 160 - Diversity of Life: Animals, Plants, and Microbes
- BIOL 250 - Molecular and Cellular Biology
- 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
- MATH 117 - Introductory Statistics

II. Intermediate and Upper Level Course work (24 credits)

Students must take an additional 24 credits at the intermediate or upper level from among the following, including at least 2 credits at the 400 level to provide a capstone experience during their senior year. At least 14 credits (which may include the capstone) must be at the upper level, and at least 3 courses must have labs.

The first four credits of independent laboratory or field research (BIOL 296, 396, 404, 410, 411; CHEM 360; NEUR 296, 396) can be counted as one lab course; additional credits are counted as non-lab electives. No more than 8 credits of independent research can count toward the major (BIOL 294, 296, 396, 402, 404, 410, 411; CHEM 360; NEUR 294, 296, 396). No more than 2 credits of internship/ INTC 200 can count towards the major, and a biology faculty member must be the faculty evaluator.

- BIOL 215 - Environmental Science
- BIOL 250 - Molecular and Cellular Biology
- BIOL 252 - Microbiology
- BIOL 256 - Anatomy and Physiology I
- BIOL 258 - Anatomy and Physiology II
- BIOL 270 - Topics in Biology
- BIOL 294 - Intermediate Independent Research in Biology: Literature Research
- BIOL 296 - Intermediate Independent Study in Biology: Laboratory/Field Research

- BIOL 302 - Geographic Information Systems
- BIOL 308 - Conservation Biology
- BIOL 312 - Evolutionary Genetics
- BIOL 314 - Animal Behavior
- BIOL 318 - Freshwater Ecology
- BIOL 320 - Tropical Marine Ecology
- BIOL 322 - Primatology
- BIOL 324 - Forest Ecology
- BIOL 330 - Emerging Infectious Disease
- BIOL 338 - Ornithology
- BIOL 344 - Endocrinology *
- BIOL 346 - Systems Neurobiology
- BIOL 348 - Immunology
- BIOL 356 - Cell and Molecular Neurobiology
- BIOL 358 - Diseases of the Brain
- BIOL 360 - Molecular Biology of Cancer
- BIOL 362 - Virology
- BIOL 364 - Advanced Cellular Biology
- BIOL 368 - Molecular Genetics *
- BIOL 370 - Topics in Biology
- BIOL 390 - Seminar in Biology
- BIOL 394 - Advanced Independent Research in Biology: Literature Research
- BIOL 396 - Advanced Independent Research in Biology: Laboratory/Field Research
- CHEM 360 - Foundations in Biochemistry *
- CHEM 365 - Foundation in Biochemistry without Laboratory *
- INTC 200 – Internship Project in Biology
- NEUR 296 - Intermediate Independent Research: Laboratory/Field Research
- NEUR 394 - Advanced Independent Study in Neuroscience: Literature Research
- NEUR 396 - Independent Research in Neuroscience: Laboratory/Field Research
- PH 340 - Epidemiology
    - * Additional prerequisite courses required

III. Capstone Work to be completed senior year (credits included as part of Upper Level coursework)

- BIOL 400 - Biology Capstone: Seminar
- BIOL 402 - Biology Capstone: Literature Research
- BIOL 404 - Biology Capstone: Laboratory and Field Research
- BIOL 410 - Specialized Honors I
- BIOL 411 - Specialized Honors Research II

==

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 but this major revision? Does the proposed major offer increased possibilities for interdisciplinary collaboration?

It is expected that there will be no significant impact on other departments. There is a new requirement for MATH 117, however most biology majors already take this course. There may be a slight downturn in students taking some of the cognate science courses in chemistry, physics and math.

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.

Those students currently enrolled in the B.A. biology major who have not taken MATH 117 but have taken other cognate science courses will be allowed to count one of those courses for their major. Those students wishing to declare for the B.S. biology major will be required to meet the new requirements.

VI. Revision of Minor

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

None.

Drew - Current Major	Proposed Drew - B.A. Major	Proposed Drew - B.S. Major
52 credits	*48 credits*	*56 credits*
BIOL 150 - Ecology & Evolution	BIOL 150 - Ecology & Evolution	BIOL 150 - Ecology & Evolution
BIOL 160 - Diversity of Life	BIOL 160 - Diversity of Life	BIOL 160 - Diversity of Life
CHEM 150 - Prin. of Chemistry I	CHEM 150 - Prin. of Chemistry I	CHEM 150 - Prin. of Chemistry I
CHEM 160 - Prin. of Chemistry II	CHEM 160 - Prin. of Chemistry II	CHEM 160 - Prin. of Chemistry II
Cognate Elective	MATH 117 - Statistics	MATH 117 - Statistics
Cognate Elective		Cognate Elective
		Cognate Elective
BIOL 250 - Molecular & Cellular Biology	BIOL 250 - Molecular & Cellular Biology	BIOL 250 - Molecular & Cellular Biology
BIOL 2XX Elective	BIOL 2XX Elective	BIOL 2XX Elective
BIOL 2XX Elective	BIOL 2XX Elective	BIOL 2XX Elective
BIOL 3XX Elective	BIOL 3XX Elective	BIOL 3XX Elective
BIOL 3XX Elective	BIOL 3XX Elective	BIOL 3XX Elective
BIOL 3XX Elective	BIOL 3XX Elective	BIOL 3XX Elective
BIOL 3XX Elective (include Capstone)	BIOL 3XX Elective (include Capstone)	BIOL 3XX Elective (include Capstone)
4 electives must have a lab	*3 electives must have a lab*	*4 electives must have a lab*

VII. Course Proposals

Attach complete course proposal forms for each new and revised course included in the revised major.

5.Biochemistry & Molecular Biology B.S. major

The Biochemistry and Molecular Biology (BMB) program requests to have the existing major lead to a BS degree. Exploring the curricula of peer and aspirant schools that offer a BS in Biochemistry or BMB, the Drew program requires a similar (though slightly larger) number of science courses for the major, indicating that the Drew program offers comparable science content to other schools that award a BS degree for the major. Awarding a BS to Drew BMB majors will allow a more facile and accurate comparison between Drew and competitor programs for both prospective students and prospective employers of our graduates, as indicated in the original recommendation regarding BS degrees.

Biochemistry & Molecular Biology B.S. Benchmarking.

Drew University (BMB)	**Gettysburg (BMB)**	**St. Lawrence (Biochemistry)**	**Furman (Biochemistry)**
78 credits (19.5 courses)	*18 courses*	*18 courses*	*18 courses*
CHEM 150/151 - Chemistry I	Fundamental Chemistry	General Chemistry I	Foundation of Chemistry
CHEM 160/161 - Chemistry II	Chemical Reactivity	General Chemistry II	Kinetics, Thermodynamics
CHEM 250 - Organic Chemistry I	Organic Chemistry I	Organic Chemistry I	Organic Chemistry
CHEM 350 - Organic Chemistry II	Organic Chemistry II	Organic Chemistry II	Bio-Organic Chemistry
CHEM 360 - Found. in Biochemistry	Biochemistry I	Biochemistry	Biological Chemistry
Biochemistry II OR Chemical Biology	Biochemistry II	Advanced Biochemistry	Advanced Biological Chem
	Physical Chemistry I	Biophysical Chemistry	Physical Chemistry
BIOL 150 - Ecology and Evolution	Ecology and Evolution	General Biology I	
BIOL 160 - Diversity of Life	Living Organisms	General Biology II	
BIOL 250 - Molec & Cellular Biology	Cell Biology	Intro to Cell Biology	
BIOL 368 - Molecular Genetics	Genetics	Genetics	Genetics
	Molecular Genetics		
MATH 150 - Calculus I	Calculus I	Calculus I	Calculus I
MATH 151 - Calculus II	Calculus II	Calculus II	Calculus II
PHYS 111/150 - Physics I	Physics I	Physics I	Physics I
PHYS 112/160 - Physics II	Physics II	Physics II	Physics II
			additional Math course
Science Elective, upper-level	Elective, upper-level	Research Methods in Biochemistry	Elective
Science Elective, upper-level	Elective, upper-level	Research Methods in Molec Biology	Inorganic Chemistry
Science Elective, lab experience			Analytical Chemistry
Science Elective, lab experience			Experimental Techniques
BCHM 395 - Research		Senior Research Experience	Research
BCHM 400 - Capstone (2 credits)			

#6. Computer Science B.S. Major

The Drew CS program proposes to offer a BS in CS in place of its BA in CS. Our local and peer institutions overwhelmingly offer a BS with similar requirements. None of the proposed courses or curriculum of the degree will change.

Computer Science B.S. Benchmarking.

Drew University	**St. Lawrence**	**Muhlenberg**
52 credits (13 courses)	**11 courses**	**11 courses**
CSCI 149/150 - Intro to Computer Science	Intro to Computer Science	Intro to Computer Science
CSCI 151 - Object Oriented Programming	Techniques of Computer Science	Computer Science II
CSCI 220 - Discrete Mathematics	Bridge to Higher Mathematics	
CSCI 230 - Data Structures	Data Structures	Data Structures & Algorithms

CSCI 260 - Intro to Computer Systems & Archit.		
CSCI 330 - Information Management	Computer Organization	Computer Organization
CSCI 340 - Software Engineering		Software Engineering
CSCI 350 - Computer Networks & Security		
CSCI 360 - Operating Systems		
CSCI 370 - Algorithm Analysis and Computability	Algorithm Analysis	
	Programing Languages	
	Theory of Computing	
MATH 117 - Statistics		Statistics
		Calculus
Comp. Sci. Elective	Comp. Sci. Elective	
	Comp. Sci. Elective	Comp. Sci. Elective
		Comp. Sci. Elective
		Comp. Sci. Elective
CSCI 400 - Comp. Sci. Capstone	Senior Year Experience	Computer Science Seminar

#7. Academic Integrity Policy & Alternative Resolution Revised Draft

Academic Integrity Policy (revised 10-16-18)

Standards

Standards of integrity in the academic world derive from the nature of the academic enterprise itself. Students attend college in order to educate themselves. The various exercises that absorb so much time and energy during the semester -- tests, reports, problem sets, essays, and term papers -- are all purposeful opportunities enabling students to develop and display their acquired skills, knowledge, and capacity for critical thinking and creative analysis. Since academic dishonesty necessarily hinders such development, it cannot be tolerated under any circumstances. Accordingly, Drew University has established standards of academic integrity and procedures governing violations of them. These basic standards apply to all work done at Drew.

Students are expected to understand the principles of integrity and comply with the university's standards.

All members of the academic community are expected to report any instance of presumed dishonesty.

Mission of the Academic Integrity Committee

The Dean of Arts & Sciences or designee from the Dean's or Provost's office convenes an Academic Integrity Committee made up of faculty members from each division of the College. The committee's mission is to promote a culture of honesty and adherence to academic standards of integrity, by providing guidance to the community in fulfilling its responsibilities under the Academic Integrity Policy, and by supporting student engagement in educational opportunities and intellectual growth.

Categories of Academic Dishonesty

The standards of academic integrity apply to information that is presented orally, in writing, or via the computer, in any format ranging from the most informal comment to a computer program or a formal research paper. These standards apply to source material gathered from other people, from written texts, from computer programs, from the internet, or from any other location.

1. Plagiarism: Plagiarism is the act of appropriating or imitating the language, ideas, or thoughts of another and presenting them as one's own or without proper acknowledgment. This includes

- submitting a paper or part of a paper written by another person as one's own, whether that material was stolen, purchased, or shared freely.
- submitting a paper containing insufficient citation or misuse of source material.
- submitting work with unacknowledged inclusion of language, ideas, or thoughts taken from another individual or information source.
- Knowingly allowing one's work to be used by other student(s) without prior approval of the instructor. Unless explicitly permitted or prescribed by the faculty member, students should not engage in collaboration on graded assignments, including but not limited to homework, projects, papers, laboratory work, and take-home exams.

2. Unintentional Plagiarism: Unintentional plagiarism, also known as patch writing, may occur when students depend too heavily on textual material to make a point rather than making the point themselves and using the text to support it. In such cases, students cite the sources they have used, but do not correctly paraphrase the source material. They often also fail to indicate where paraphrased source material begins and ends. Unintentional plagiarism can also result from excessive collaboration when students fail to give adequate credit to others with whom they have worked. In all cases, unintentional plagiarism leaves the reader unsure of whose ideas are being presented, or leads them to assume that the words and ideas of others are those of the author.

3. False Citation: Listing an author, title, or page reference as the source for obtained material, when the material actually came from another source or from another location within that source, is a breach of academic integrity. This includes attributing fabricated material to a real or fictitious source.

4. Unethical data reporting: Suppressing results inconsistent with one's interpretation or conclusions, fabricating or falsifying lab or research data.

5. Duplicate Submission: Submitting one work in identical or similar form to fulfill more than one requirement without prior approval of the relevant faculty members is a breach of academic integrity. This includes using an assignment for more than one course or submitting material previously used to meet another requirement.

6. Cheating on Examinations: Copying material from another person or source or by gaining any advance knowledge of the content or topic of an examination without the permission of the instructor is a breach of academic integrity. Knowingly providing answers to another students during an exam also constitutes cheating. These standards apply to take-home examinations as well.

Reporting Cases

Instructors shall report alleged cases of violations of the Academic Integrity Policy using the Academic Integrity Reporting Form. The following considerations may apply to reporting alleged cases:

- In cases where there is question as to whether a preponderance of evidence exists, instructors may wish to consult with the convenor for guidance in choosing the appropriate course of action.
- New faculty may wish to consult with their department chair to review suspected violations and to assist in moving a viable case forward.
- Students are expected to maintain the standards of the college by reporting to the instructor any violations of the policy they observe in their classes.

The following constitute two potential courses of action in response to the Academic Integrity Reporting Form:

1. **Alternative Resolution** Procedure (ARP): The ARP applies to first offenses that are minor or unintentional for a student who admits responsibility for the violation. Violations by first-year students are generally managed through the ARP. Details on the **ARP** follow below.

2. **Academic Integrity Hearing:** If the evidence suggests that the violation is more serious, was intentional, and/or the charged student is unwilling to admit to the offense, the Academic Integrity Committee may determine that an alternative Resolution is inappropriate. When at least one of the following conditions apply, the Integrity committee convenor will schedule an Academic Integrity Hearing:
   - i) The nature of the case is more serious than would be warranted by an Alternative Resolution or
   - ii) The student refuses to admit to a first offense that could otherwise be resolved through the Alternative Resolution procedure or
   - iii) The student fails to complete Sanction(s) articulated in the Alternative Resolution form or
   - iv) The violation is the second recorded violation for the student.

Details on the **Hearing** procedures follow below.

Alternative Resolution Procedure

For cases in which the Academic Integrity Committee advises an Alternative Resolution with concomitant sanctions, the instructor and student are required to complete and sign the Alternative Resolution form; the faculty signs the form upon successful completion of all designated sanctions. The form, placed on file in the Office of the Dean of Arts & Science, documents the violation, the student's admission of responsibility, and the sanctions that apply. Failure to complete all sanctions will prompt the convening of an Academic Integrity Hearing.

~~The form will be used as evidence of a first offense if the student is accused of another breach of academic integrity.~~

The form is not considered part of the student's permanent academic record and therefore the violation will not be reported internally or externally as a formal breach of conduct. However, the form and associated documentation will be used as evidence of a first offense if the student is accused of another breach of academic integrity.

The form, together with all documentary material from the case, will remain ~~on file until one year after the student graduates, at which point the file is destroyed~~ in an internal file until the student graduates or otherwise separates from the university.

Academic Integrity Hearings

The Academic Integrity Committee convenor notifies the following individuals of the intent to schedule a hearing based on a reported offense: the accused student, two faculty members from the Academic Integrity Committee,. Before the hearing is scheduled, each individual is provided the opportunity to report a potential conflict of interest. As appropriate, alternative Committee members will be scheduled such that no potential conflict of interest is reported.

The accused student may request the presence of a faculty or staff member of his or her choosing at the hearing. This faculty or staff member's presence is intended for moral support only and not for student advocacy; this individual is expected to communicate to the convenor in advance of the hearing any information that he or she intends to share with the committee. The convenor will confirm whether or not the information is relevant and should be shared.

For students with documented disabilities: Upon request, the University can provide disability-related assistance to be present at the hearing. As appropriate, the assistance may be provided by the Director of Accessibility Resources. Disability-related support may include assistance with communication and clarification of any and all aspects of the hearing.

For INTO students: Students may request the presence of a staff adviser from the INTO program to attend the hearing to assist with communication and clarification of any and all aspects of the hearing.

Hearing Process

All those in attendance of the hearing are afforded at least one week's notice of the hearing. All evidentiary documentation to be presented at the hearing must be made available for review by the hearing attendees at least one week prior to the hearing. All documents are shared in a secure setting.

If a student fails to attend the scheduled hearing and has not provided prior notification of a valid reason for absence, the hearing will proceed and the committee will deliberate in the student's absence.

In the first stage of the hearing, the faculty member bringing the charge, the accused student, and faculty or staff ~~(disability-related or INTO)~~ supports will be present. The faculty member will be asked to explain the assignment and the violation, and then the student will be asked to make an oral statement regarding their work. Both may be asked questions by members of the committee, and each will make an oral statement to the Committee and answer any questions. At this stage, either the faculty or the student may ask to address the Committee without the others being present, and will be granted the right to do so.

The accused student and faculty or staff attending for support (if present) will be asked to wait outside the room while the Committee deliberates. The accusing faculty member is released from the hearing. The accused student may be called back in the room or the faculty member contacted via phone to answer follow up questions should any arise.

The convenor, the two committee members will vote on the matter. A decision of guilt or innocence will be based on a preponderance of the evidence in the case. It is at this stage in the process that previous findings of guilt and/or mitigating circumstances are introduced in determining sanctions.

At the end of the Committee's deliberations on the case, the student will be called back into the hearing to hear the outcome. Shortly thereafter the convenor will convey the decision in writing to the student and the instructor.

In all cases, both the accused student and the faculty member bringing the charge may **appeal** the decision as described below.

If the student is found guilty, all documents relating to the case will be placed on file in the office of the Dean of the College, where they will remain until the student's file is destroyed one year after the student graduates. As long as the file exists, the student is not considered in good standing with respect to student conduct. If the student is found guilty of any further integrity violation, ~~the sanction is permanent expulsion from the university~~ a more severe sanction will apply and may result in suspension from the university. Any violations recorded after a suspension semester will result in permanent expulsion from the university and the case will remain permanently on file with the institution.

Sanctions

The individual merits of each case are weighed by the Academic Integrity Committee member attending to the case. Overall, the processes underscore the importance of integrity in the academic setting and is mindful of the role of education in the remediation process.

Minor offenses: Penalties may include, but are not limited to,

Participation in and achievement of a passing score in an educational tutorial

No credit for the assignment

A failing grade on the assignment

Re-do the assignment with grade penalty

An assigned paper or project related to academic integrity

More serious violations: Penalties may include, but are not limited to,

Failing grade in course

An assigned paper or project related to academic integrity

Dismissal or denied entry to departmental/university honors or merit-based program

Suspension for one or more semesters

In rare or extreme cases, or for multiple offenses, permanent expulsion from the University.

Appeals Process

a) Decisions of the Academic Integrity Committee may be appealed only if the original hearing overlooked specific evidence or committed procedural errors.

b) The Dean's Council is the final appeals board for cases of violations of the academic integrity policy. The appeal, whether sought by the faculty member who brought the charge or by the accused student, must be submitted in writing to the Council. On the basis of the written appeal, the Council may decide to hear the case or to uphold the original decision if no evidence has been shown to have been overlooked and/or if no procedural errors have been shown to have occurred. Whatever its decision, the Council must provide reasons in writing to both parties. If the Council agrees to hear the case, it has the right to reverse the decision of an earlier hearing.

c) Only the five faculty members of the Dean's Council will vote on such appeals. The Dean of Arts & Sciences or designee will remain in attendance during such hearings, and will have a voice but no vote.

d) When any member of the Council believes he or she should not hear the matter under appeal because of a possible conflict of interest, that member may be excused. In this event, the Dean of Arts & Science will appoint a temporary faculty replacement. The student is granted the same provision of faculty, disability-related support, or staff support ~~(INTO only)~~ as for an integrity hearing.

e) During the hearing of the appeal, both the faculty member who brought the original charge and the student may be asked questions by members of the committee. and each will make an oral statement to the Committee and answer any questions.

f) Decisions will be based on a preponderance of the evidence and will be provided in writing to both parties.

Alternative Resolution for Selected Violations of the CLA Academic Integrity Policy

Drew University has established standards of academic integrity and procedures governing violations of them, and has published those standards in its Academic Integrity Policy. These basic standards apply to all work done at Drew, and students are expected to study and comply with these principles.

Students come to Drew with a variety of academic preparations. For this reason, it may be appropriate to treat a first and minor violation of academic integrity as an opportunity for education. This might be especially appropriate in cases of improper or insufficient citation or excessive collaboration.

The Academic Integrity Committee has deemed the violation committed by the student identified on this form as eligible for resolution by the Alternative Resolution procedure.

Potential Sanctions include, but are not limited to, the following:

- Participation in and achievement of a passing score in an educational tutorial
- No credit for the assignment
- A failing grade on the assignment
- Re-do the assignment with grade penalty
- An assigned paper or project related to academic integrity

According to the terms of the Alternative Resolution Procedure, this form and a copy of all relevant documentation will be placed in an internal file in the office of the Dean of the College, where it will remain until the student graduates or otherwise separates from the university. This documentation will be considered at the penalty phase of an Academic Integrity Hearing if the student is found to have committed another breach of academic integrity or if the sanctions put forth in this document are not completed. The document is not considered part of the student's permanent academic record.

Comment [1]: consider a little more description or detail. brief online video? 3-day workshop? something that instructors would create? More info. for both student and instructor.

Comment [2]: We currently have the "understanding Academic Honesty" course online. We could certainly add more video content to this. Not sure if a 3-day workshop is feasible, but we can certainly discuss.

Comment [3]: By this comment I only mean that it brings up questions for me when I read it, and may for others. I'm not suggesting other alternative strategies,
but asking for clarification in this doc about what an educational tutorial
is. I hope this helps!

<http://www.drew.edu/>
Rebecca Soderholm <http://www.drew.edu/directory/?q=email:rsoderholm&utm_source=FIL_Email_Footer&utm_medium=email&utm_campaign=FIL%2BEmail%2BFooter>
| Associate Professor, Art | Art Department <http://www.drew.edu/art?utm_source=FIL_Email_Footer&utm_medium=email&utm_campaign=FIL%2BEmail%2BFooter>

____

Student Name:..

Instructor Name:..

Class (name, number, & section):..

Date:......................................

The student named above has admitted to violating the Academic Integrity Policy in the class named above as follows: *(Please describe the assignment and the nature of the violation, and attach a copy of the assignment, the offending text, and highlighted copies of any misused texts that are available/relevant)*

____

Please list and describe sanctions : (examples include change of grade, requirement to re-write assignment, required completion of online educational tutorial, or others appropriate to violation)

Student:

I understand the accusation and the seriousness of any breach of academic integrity. I am aware that while this offense will not be held as part of my academic record, a copy of this document will be placed in an internal file in the office of the Dean of the College as long as I am enrolled as a Drew student. (see Academic Integrity Policy). I also understand that if I am found guilty of a breach of academic integrity in the future, this document and the material from this case will be used as evidence of a first offense in the penalty phase of the hearing and the penalty will be more severe than it would be for a first offense.

Student signature:... Date:...................................

Faculty:

If the student satisfactorily completes the above, please date and sign this form:

I am satisfied with the work the student has completed as a result of this Alternative Resolution, and believe that the student now possesses the knowledge to avoid similar infractions in the future.

Faculty signature:.. Date:...................................

Please send this form with a copy of the assignment, the offending text, and copies of any relevant misused texts that are available, to the office of the Dean of the College.

#8. Academic Standing, Revisions to Faculty Regulations

Academic Standing Committee Faculty Regulations (updated 8/22/18)

Current ASC description from UKNOW

Concerned with the academic performance of the students. Decides on the standing and retention of students. Grants or denies requests for modifications or exemptions to academic regulations.	One member from each division. **APPOINTED**	Bi-weekly during the semesters. Committee collectively decides appropriate meeting time.	No	2 yrs

Suggested changes:

Meeting time: Committee currently meets weekly for 1.5 hours instead of bi-weekly.

The current description indicates that the committee only meets during the semesters, suggested change: "meets during the entire academic year."

Rationale for changes: Meeting weekly serves two purposes: 1) ensures that the committee has enough time to carefully review and make decisions on all petitions within a single meeting, and 2) ensures that students receive timely responses to their petitions.

The current description indicates that the committee only meets during the semester; however, we also meet a few times over winter break and during the summer - this is important to discuss incidents such as changes to academic standing (e.g., probation, warning), and to deliberate on re-entry requests.

Description of ASC from Faculty Regulations:

c) Committee on Academic Standing. The Committee on Academic Standing shall be concerned with the academic performance of students. It shall decide the standing and retention of students. It shall grant or deny individual student requests for modifications or exceptions to academic regulations. It shall advise the faculty regarding its policies and regulations.

i. The Committee on Academic Standing shall consist of:

a. Four faculty members from separate divisions. One of these faculty members shall chair the committee.

b. Two students. An alternate student may also be designated to attend regularly with neither voice nor vote, but shall have both voice and vote in the absence of either regular student member. At the time of appointment, these students shall be degree candidates in good standing. They shall serve for the balance of their college enrollment if they remain in good standing and continue to make satisfactory progress toward their degrees. Students shall be designated by the student government.

Suggested change: Remove this section. This change brings the committee description in line with current practice (students have not served on ASC since AY 2013-14, and did not serve consistently before that time).

In place of the two students attending regular meetings, the Committee suggests that the Chair of the committee meet with the appropriate representatives from student government at the beginning of each academic year to review the committee's policies and guidelines and solicit feedback.

Rationale for change: There are two motivations for this suggested change: 1) The documentation presented at the meetings is often highly confidential, and not appropriate to share with students. 2) There is a significant time demand associated with serving on this committee. In addition to the weekly 90 minute meetings, committee members are expected to carefully review the petition packet prior to the meeting (the packet varies considerably in length from week to week, but at least an hour is required to review it. The Committee believes that this time demand is too onerous for students.

c. The Dean of the College, or the Dean's representative, the Associate Dean for Academic Services, the Dean of Campus Life and Student Affairs.

Suggested change: Replace "The Dean of the College, or the Dean's representative, the Associate Dean for Academic Services," with "Associate Provost and Director of the Center for Academic Excellence."

Replace "Dean of Campus Life" to "Dean of Students (or a representative)."

Rationale for change: This change would bring the language in line with current practice as well as the current administrative model.

The University Registrar shall attend with voice but without vote.

Suggested change: Representatives from Financial Assistance and Student Accounts shall attend with voice but without vote.

Rationale for change: These individuals provide useful information on the financial consequences of petition decisions that, although do not play a role in the committee's decision making-process, are used in petition decision emails to students.

ii. The committee shall report to the faculty each semester on actions it has taken during the preceding semester. (CLA 95-32).

New Courses Descriptions:

DATA 501/Data Analytics: Introduction, History, and Case Studies
An introduction to data analytics centered around small projects and case studies. Basic techniques for data acquisition, public data sources, privacy and security, and ethical and legal issues. Case studies will include uses of data and data analytics in industry and public policy and examples of data journalism.

DATA 502/Data Visualization and Communication
A survey of techniques and tools for effectively visualizing and communicating small and large data sets in informative ways for a variety of audiences. Applications include ggplot, Tableau, Excel, and interactive visualizations using R shiny.

DATA 503/Applied Regression Analysis
This course covers methods of regression analysis including simple, multiple, and logistic regression, explanation, prediction, diagnostics, model selection, and models with categorical predictors.

DATA 504/Network and Text Analytics

This course will cover the data analytic aspects of three closely related topics: Web search, recommendation systems, and social network analysis. The emphasis is on data acquisition, probabilistic and statistical methods, user behavior modeling, and dynamic behavior and structure co-evolution in social networks.

DATA 551/Modeling and Simulation
This course covers methods for modeling and simulating systems using a variety of techniques, including statistical models, Monte Carlo simulations, agent-based models, and machine learning. Students will also be introduced to the basics of Bayesian analysis and Markov Chain Monte Carlo (MCMC) techniques.

DATA 552/SQL for Big Data
This course will cover the use of SQL databases and the SQL language to manage and query big data. Students will also learn to use Unix and other tools to prepare data.

DATA 601/Statistical Machine Learning
This course provides students with an introduction to statistical machine learning techniques for analyzing data using the statistical programming language R. Emphasis will be on supervised learning methods such as regression, k-nearest neighbors, discriminant analysis, naive Bayes, decision trees, network analysis, as well as model assessment tools such as cross-validation.

DATA 602/Topics in Data Analytics
Depending on instructor availability and interest. Potential topics include Business Analytics, Time Series Analysis, Spatial Analysis of Data using GIS, Generalized Linear Model and Categorical Data Analysis, Computational modeling of neural systems**.**

DATA 610/Independent Study in Data Analytics
An opportunity for independent work by students on a topic selected in conference with a faculty mentor and approved by the program. Instructor Approval Required.

DATA 680/Data Analytics Practicum
Industry internship or research project with faculty supervision from relevant discipline.

DATA 688/Capstone: Case Studies in Data Analytics
In this course, students will explore data analytic case studies from diverse industries with attention to project goals, method selection, ethical considerations, and data privacy.

Change to Existing Course:

PSYC 350/Laboratory in Psychology
Current:
PSYC 350L/Laboratory in Psychology
An optional laboratory course to be taken after PSYC 211. Students will explore the methodological and measurement practices that are commonly employed in psychological research in several different areas of psychology by completing hands-on activities and projects. Multiple lab reports will be required. Course may be repeated as topic varies. 2 Credit hours . CLA-Writing Intensive.
Proposed:
PSYC 350/Laboratory in Psychology: Special Topics
An optional laboratory course to be taken after PSYC 211. Students will explore the methodological and measurement practices that are commonly employed in psychological research in several different areas of psychology by completing hands-on activities and projects. Multiple lab reports will be required. Course may be repeated as topic varies. 4 Credit hours . CLA-Writing Intensive.

ADDENDUM: Proposal to confer Bachelor of Science degrees at Drew University

This addendum to this month's curricular report is intended to help faculty place the new proposed B.S. majors in the context of the B.S. proposal approved by the faculty last May.

Proposal to confer Bachelor of Science degrees at Drew University

Context: Many prospective students, especially in the sciences, and some prospective employers of our graduates, have the perception that Bachelor of Science (B.S.) degrees denote more technical skills training than Bachelor of Arts degrees. However, an analysis of Drew's peer and aspirant institutions indicates that (1) half of our peer and aspirant institutions offer B.S. degrees demonstrating this as a common practice at many Liberal Arts institutions and (2) there is no substantive difference between the B.S. degrees conferred by these institutions and many of Drew's existing B.A. majors. An analysis of our competitor institutions indicates that they all offer B.S. degrees, which puts us at a competitive disadvantage attracting students (and parents) that hold such a perception. Thus, students who prioritize the B.S. degree likely do not consider Drew, even though we offer a curriculum that meets their academic goals. Moreover, B.S. programs can be offered at Drew with zero additional resources and would not affect Drew's Middle States Accreditation or even require a Substantive Change.

The dominant model at Drew's P&A institutions is to have similar General Education requirements for B.A. and B.S. degrees, and to designate specific majors as leading to either a B.A. or a B.S. degree. At many institutions, departments and programs may offer both degrees (e.g., it is very common to see both a B.A. in Chemistry and a B.S. in Chemistry, which parallels our current Chemistry-Basic and ACS-Approved Chemistry majors), where the B.S. majors are larger and require additional mathematics and/or natural science courses. This analysis also demonstrates that many of the majors currently offered by Drew meet or exceed the requirements of B.S. majors at P&A institutions.

Proposal: Based on the analysis, we recommend that Drew University offer Bachelor of Science degrees using the same General Education requirements as Bachelor of Arts degrees. Individual departments and programs would be requested to compare their existing majors to B.S. programs at the P&A institutions identified below. Majors consistent with the B.S. benchmarking data should be submitted to CAPC and the faculty of Arts & Sciences for approval as B.S. degrees. Majors frequently leading to B.S. degrees include Biology, Biochemistry and Molecular Biology, Chemistry, Computer Science, Environmental Science, Neuroscience and Physics. Business and Economics programs as well as Mathematics, Psychology and Public Health also appear as B.S. majors at several institutions.

Proposed Policy for Double Majors: Students who double major, in which one major leads to a Bachelor of Arts degree and the other to a Bachelor of Science degree, may elect to receive either the B.A. or B.S. degree upon graduation.

Analysis of Bachelor of Science Degrees at Peer, Aspirants and Competitors

Eight out of fifteen (53%) of our Peer Institutions and eight out of fifteen (53%) of our Aspirant Institutions offer both B.A. and B.S. degrees (Table 1).

Peer Institutions			**Aspirant Institutions**	
B.A. and B.S.	**B.A. only**		**B.A. and B.S.**	**B.A. only**
Illinois Wesleyan	Lewis & Clark		Dickinson	Franklin & Marshall
Allegheny	Washington & Jefferson		Sewanee	Occidental
Univ. of Puget Sound	Goucher		Trinity	Connecticut
Ursinus	Augustana		Gettysburg	DePauw
Southwestern	Juniata		Furman	Rhodes
Ohio Wesleyan	Hampshire		Denison	Sarah Lawrence
Susquehanna	Lake Forest		St. Lawrence	Lawrence
Eckerd			*Skidmore*	

The structure of the B.S. degrees at all P&A institutions is detailed on pages 2-8 of this report. All of our Competitor Institutions offer both B.A. and B.S. degrees, including Muhlenberg College and The College of New Jersey. Furthermore, all of New Jersey's higher education institutions, except Princeton, offer B.S. degrees (see data on pages 9-11).

Notes on the structure of Bachelor of Science degrees at P&A Institutions.

Illinois Wesleyan: From the Advising FAQs: "At IWU there is no difference between degree requirements for a B.S. or B.A. degree. Both degree programs provide for the acquisition of written and oral communication skills, creative thinking, abilities in the critical analysis of texts, the understanding of cultures, and a working knowledge of social, political, and historical contexts. The B.A. degree is typically pursued by those students whose academic emphasis in their major area of study is directed toward the humanities, arts, and selected areas of the social sciences disciplines. The B.S. degree is typically pursued by those students whose academic emphasis in their major area of study is directed toward the natural sciences, mathematics, statistics, or a technological field. Talk with your advisor about which degree is best for you." BA/BS offered in Accounting, Biology, Business Administration, Chemistry, Computer Science, Finance, Health Promotion & Fitness Management, International Business, Mathematics and Physics.

Allegheny: No difference in Gen Ed requirements. Appears that certain majors automatically lead to B.S. degree, while in a few others a student may choose (e.g., "The major field program in Psychology leads to the Bachelor of Arts or the Bachelor of Science degree. Students may elect to receive either degree. Both degrees require the completion of at least 44 credits in Psychology. All courses for the Psychology major must be taken for a letter grade."). It is difficult to easily identify which majors are included. Confirmation for the following: Biology, Chemistry, Geology, Environmental Geology, Global Health Studies (BA or BS), Mathematics, Physics, and Psychology (BA or BS).

University of Puget Sound: No difference in Gen Ed requirements. Appears that certain majors automatically lead to B.S. including: Biology, Biochemistry & Molecular Biology, Mathematics and Computer Science, Exercise Science, Physics (also have B.A. in Physics of Engineering Dual Degrees - aka "Engineering Physics"). Chemistry has different requirements for B.A. and B.S. degrees: Chemistry: Requirements for Bachelor of Arts Degree in Chemistry: PHYS 121, 122; MATH 180, 181, 280; CHEM 110, 120, 231; CHEM 250, 251, 340, 341, 420; one-half unit Chemistry elective at the 300 or 400 level; and participation in CHEM 493, Seminar. Requirements for Bachelor of Science Degree in Chemistry must also complete CHEM 330, 341, and 490 (1 unit).

Ursinus: Ursinus College confers the degrees of Bachelor of Arts and Bachelor of Science. For specific requirements of the curricula leading to each of these degrees, see departmental requirements. (Other information is difficult to find, although the Neuroscience major states that it leads to a B.S. degree.)

Southwestern: The Bachelor of Science degree requires same Gen Ed as B.A. degree plus the following Additional Requirements: Biology (8 credits), Chemistry (8 credits), Mathematics and Computer Science (8 credits), and Physics (8 credits). The major must be selected from the Natural Sciences Area or Psychology. See specific course requirements for majors and minors listed under departmental program descriptions.

Ohio Wesleyan: Excerpt from March 2017 Press Release: "Ohio Wesleyan to Begin Conferring Bachelor of Science Degrees." Beginning as early as May 2018, Ohio Wesleyan University graduates will be able to earn Bachelor of Science degrees in addition to the existing Bachelor of Arts, Fine Arts, and Music degrees conferred by the private, liberal arts university. The first Ohio Wesleyan majors to offer Bachelor of Science degrees will be physics and astrophysics, and the university anticipates adding chemistry, geology, and zoology to the list over the next several weeks. "Ohio Wesleyan is pleased to add this academic opportunity for our students," said Provost Charles L. Stinemetz, Ph.D. "In some graduate school and career paths, holding a Bachelor of Science degree is seen as advantageous, and we want to provide our students with every opportunity to succeed." For majors that offer both Bachelor of Arts and Bachelor of Science tracks, Stinemetz said, either option will be academically rigorous, but the latter will provide a greater depth and stronger emphasis on preparing students for advanced study in the field or direct entry into professional-level employment. The increased depth may be provided by additional required courses in the field, additional required affiliate courses, a different selection of courses in the field, or other academic experiences selected by Ohio Wesleyan faculty to prepare students for their desired next steps, he said. Students who choose to pursue a Bachelor of Science in physics will prepare themselves for post-graduate opportunities including advanced degrees in biophysics, geophysics, oceanography, or physics. The degree also lays a solid foundation for careers in areas including engineering and computer science. … To be eligible to confer Bachelor of Science degrees, Ohio Wesleyan was required to apply to, and be approved by, the Chicago-based Higher Learning Commission. Ohio Wesleyan has been accredited by the commission – or its predecessor, the North Central Association of Colleges and Schools – for more than 100 years.

Susquehanna: Majors that result in Bachelor of Science degrees only: Biochemistry, Biology, Chemical Physics, Earth and Environmental Sciences, Elementary Education, Accounting, Business Administration, Finance, Global Management, Luxury Brand Marketing and Management Marketing. Other majors offer both B.A. and B.S. degrees with different requirements:

> Chemistry: The Bachelor of Science degree in chemistry requires a minimum of 41 semester hours in chemistry, including all courses required for the Bachelor of Arts degree, plus CHEM-430 Instrumental Analysis, one elective in chemistry or biochemistry, and an additional four-semester-hour mathematics or computer science course other than MATH-101 or MATH-105.
>
> Computer Science: To earn the Bachelor of Science degree in computer science, a student must complete the requirements for the Bachelor of Arts in computer science plus MATH-112 Calculus II, PHYS-204 and either PHYS-101 or PHYS-205.
>
> Requirements for the Bachelor of Science Degree with a Major in Economics. Candidates for the Bachelor of Science with a major in economics successfully complete the business foundation courses as follows and at least 20 semester hours of economics at the 300 level or above as listed below. No grade below a C- will be accepted toward graduation for foundation courses; upon earning a grade below C- in a foundation course, the student must retake the course the next semester in which it is offered. The course descriptions listed later in the catalog identify prerequisites, and these suggest a certain degree of order in completing the foundation. In addition to the

foundation, first-semester Weis School students enroll in MGMT-102 Global Business Perspectives (four semester hours), which provides an introduction to liberal studies and college life, as well as an overview of business functional areas, career opportunities and the Sigmund Weis School curriculum. This course satisfies the Perspectives requirement of the Central Curriculum.

Physics: The Bachelor of Arts degree requires 32 semester hours in physics, 16 semester hours in mathematics, 4 semester hours in chemistry, and 8 additional hours in approved biology, chemistry, earth and environmental sciences, mathematics, or computer science courses. The Bachelor of Science degree requires the above requirements *plus* 4 additional semester hours in mathematics.

Psychology: Candidates for the Bachelor of Science degree will complete all requirements for the Bachelor of Arts in psychology. Bachelor of Science candidates also complete two additional courses (at least one of which must be selected from outside the psychology department) from among the following four options: • A course (together with its corresponding lab) from the natural sciences (biology, chemistry, ecology, earth and environmental sciences, health care studies, or physics) that does not fulfill the student's Scientific Explanations requirement • Any four-semester-hour math course numbered 111 or higher (except statistics) that does not fulfill the student's Analytic Thought requirement • A third course from the fundamental paradigms content area of the psychology major • PSYC-323 Advanced Research Design and Analysis

Eckerd: Several majors detail different requirements for B.A. and B.S. degrees.

Biology: For the B.A. degree, students must fulfill the requirements and track options as listed for the B.S. degree above except that Organic Chemistry I and II and Fundamental Physics I and II are not required.

Chemistry: B.A. Degree Chemistry Program Courses: General, Analytical, Organic I&II, Physical, Instrumental, Biochemistry and one upper-level chemistry elective. B.S. Degree Chemistry Program Courses also requires Physical II and Adv Inorganic. B.S. Degree (ACS certified) also requires research.

Computer Science: A total of 12 courses (not including the seminar, internships or independent study courses) is required for the Bachelor of Arts. Four additional courses from advanced computer science (320 level or above), mathematics or physics, are required for the Bachelor of Science.

Geosciences: B.A. in Geosciences requires nine geoscience courses plus three supporting courses and a capstone experience for a total of 13 courses are required for the major. B.S. in Geosciences requires an additional three supporting courses for a total of 16 courses are required for the major.

Mathematics: The requirements for the mathematics major are: Calculus III, Mathematics Seminar, eight additional mathematics courses numbered above MA 233, and one additional science or mathematics course. For the B.S. degree students must also take four more additional science or mathematics courses.

Physics: For the B.A. degree students majoring in physics normally take the following courses: Fundamental Physics I and II, Modern Physics, Electronics Laboratory, Classical Mechanics, Electricity and Magnetism I and II, Quantum Physics I, Calculus I, II, and III, Differential Equations. For the B.S. degree, additional courses required are: Quantum Physics II and Statistical Mechanics in Thermodynamics.

Psychology: To fulfill the requirements for a Bachelor of Arts with a major in psychology, students must take at least nine courses in psychology: Introduction to Psychology, Methods I: Research in Psychology, Methods II: Statistics in Psychology, at least two of the following courses (Human Learning & Cognition, Psychology of Childhood & Adolescence, Abnormal Psychology); at least two of the following courses (Social Psychology, Personality Theory & Research, Biopsychology); and at least two additional psychology courses. To fulfill the requirements for a Bachelor of Science with a major in psychology, students must take the seven required classes from the Fundamentals, Freshman/Sophomore, and Junior/Senior categories. In addition, they must take at least three of the following courses: Advanced Statistics & Research Design, Psychological Tests & Measurements, History & Systems, and Advanced Research Seminar.

Dickinson: Students may elect either of two broad approaches to the curriculum: the Bachelor of Arts or the Bachelor of Science. General graduation requirements are the same in either case. Only those students with a major in one of the natural or mathematical sciences may choose the Bachelor of Science rather than Bachelor of Arts, but the requirements for the major are the same in either case. Regardless of the number or type of majors a student completes, each student earns only one degree. Students also study in some depth at least one disciplined approach to knowledge. Dickinson students, therefore, develop a concentration in a major. The arts and humanities provide 10 such concentrations; in the social sciences there are six concentrations; the natural and mathematical sciences provide six. These 22 disciplinary majors represent the basic academic disciplines that outline the liberal arts. They are complemented by 21 interdisciplinary majors and six interdisciplinary certification programs.

Skidmore: No difference in Gen Ed requirements. While Skidmore does offer B.S. degrees, they appear to be reserved for more professional majors and not for natural science majors, as is the case with every other P&A institutions. The following majors result in a B.S. degree: Art (Studio), Business, Dance, Education Studies, Exercise Science, Social Work. Note: traditional natural science majors (e.g., biology, chemistry, physics) result in B.A. degrees.

Sewanee: Additional Requirements for a Bachelor of Science: In addition to satisfying all requirements for the Bachelor of Arts degree, a candidate for the Bachelor of Science degree must: (1) Complete a major in biochemistry, biology, chemistry, computer science, ecology and biodiversity, forestry, geology, mathematics, natural resources and the environment, physics, or psychology; (2) Present four courses outside the major field from biology, chemistry, computer science, geology, mathematics, physics, statistics, or those courses in forestry and psychology designated as meeting the general education requirement for observing, experimenting and modeling. At least two of the four courses must be laboratory courses and all four must be taken at Sewanee.

Trinity: The bachelor of arts is the degree normally conferred by the College on an undergraduate completing the requirements for a bachelor's degree. However, a student who is graduated after completing a major or program of concentration in biology, biochemistry, chemistry, computer science, economics, engineering, environmental science, mathematics, neuroscience, physics, psychology, or in an interdisciplinary science major such as physical sciences, may elect to be awarded the bachelor of science degree provided that the department or program in question has not established different requirements for the B.A. and B.S. versions of the major. Such a choice must be made known to the registrar of the College not later than the beginning of a student's last semester of enrollment. A student who completes two (or more) majors may elect to receive the B.S. degree if at least one of those majors qualifies the student for the B.S.

Gettysburg: Requirements incorporated in individual majors and many offer B.A. or B.S. degree:

Biology: Requirements for the Bachelor of Arts (B.A.) in Biology - Nine courses in Biology, which include (1) the four-course core sequence, (2) one course from each of these three areas: Cellular/Molecular, Organismal, Population/Community; (3) two additional elective courses; (4) four courses in related departments, to include chemistry, a mathematics course, and one elective; and (5) a Capstone Experience. Requirements for the Bachelor of Science (B.S.) in Biology: Students seeking the B.S. in Biology must fulfill all of the requirements listed for the B.A., plus one additional elective biology course (for a total of 10 biology courses) and one additional course in a related department (from the above list for a total of five courses in related departments - only one of the CS courses can count for the Biology major).

Biochemistry & Molecular Biology: B.S. degree only.

Chemistry: The eight basic courses required for the Bachelor of Arts degree are Chemistry 105 or 107, 108, 203, 204, 221, 305, 306, and 317. Students who complete these eight basic courses along with Chemistry 375, Research (Chemistry 460 or 465), and one additional 300-level chemistry course may choose to receive a Bachelor of Science degree. An interdisciplinary major is offered in biochemistry and molecular biology; the complete description is listed under that title. Students who wish to receive a degree accredited by the American Chemical Society must complete the Bachelor of Science degree and in the process take either Chemistry 333 or 334. Physics 109 and 110 and Mathematics through 211 are required of all chemistry majors.

Computer Science: The requirements for a Bachelor of Arts in computer science are 10 courses in computer science (one of the courses may be selected from a list of approved courses offered by other departments) and Equivalent of Mathematics 111 or above. Bachelor of Science major in Computer Science has the same requirements as a Bachelor of Arts major in Computer Science plus four additional courses from formal and/or natural science departments. At most two of the additional courses may be at the 100-level.

Environmental Studies: Environmental studies majors, both BA and BS, take six core courses. The Bachelor of Arts degree comprises a minimum of 11 courses. In addition to the six core courses listed above, students must take five elective courses at the 200 or 300 level outside the core. The Bachelor of Science degree comprises a minimum of 14 courses. In addition to the six core courses listed above, students will take: two year-long sequences in different natural science disciplines, one course in Mathematics and Statistics, and three elective courses at the 200 or 300 level outside the core.

Health Sciences: Health Sciences Bachelor of Science (HS BS) majors develop a solid scientific foundation for the study of the human body, focusing on the structure and function of the body in conditions of wellness and disease. HS BS majors complete a very rigorous selection of science courses in the HS, Biology, Chemistry, and Physics Departments. The capstone experience for HS BS students is a capstone internship. The required courses in this major meet the entrance requirements for medical school. Health Sciences Bachelor of Arts (HS BA) majors also develop a solid scientific foundation for the study of the human body, focusing on the structure and function of the body in conditions of wellness and disease. This program includes a strong base of natural science courses, combined with human science courses. The capstone experience for HS BA students is a capstone internship. HS BA students typically go to graduate school in a variety of allied health fields, including physical therapy, physician assistant, cardiac rehabilitation, exercise physiology, nursing, occupational therapy and others.

Physics: B.A. requirements: A minimum of ten physics courses is required for the major. B.S. requirements: In addition to the six core courses, required Mathematics courses, and required capstone of Physics 420 or Physics 460 mentioned above, the B.S. degree requires at least three courses from Physics 312, 319, 330, and 341 and any two courses at the 200 level or above. Candidates for the B.S. degree must also complete Mathematics 225.

Furman: Requirements incorporated in individual majors and many offer B.A. or B.S. degree:

Biology: B.A. students must successfully complete ten or more biology courses, each of which must be at least three credits. B.S. students must also complete three chemistry courses.

Chemistry: B.S. only

Computer Science: B.S. only

Earth & Environmental Sciences: Candidates for the B.A. must complete (1) two core courses, (2) one mathematics course, and (3) six ESS elective courses. Candidates for the B.S. degree must complete the B.A. requirements (the mathematics course must be calculus) and also complete (1) one year of chemistry, (2) Research and Analysis and (3) one more ESS elective.

Mathematics: B.A. degree requires eleven Math courses beyond Calculus I. The B.S. degree also requires at least two more science courses (Bio, Chem, ESS, Phys) appropriate for a major in the respective discipline.

Neuroscience: B.S. only

Psychology: B.A. requires three core courses and one course each from six categories (Applied, Biopsychology, Development, Learning & Cognition, Social or Health, and Capstone). The B.S. also requires (1) calculus and (2) at least two more science courses (Bio, Chem, ESS, Phys) appropriate for a major in the respective discipline.

Public Health: B.A. requires six core courses, capstone, and three electives. The B.S. also requires (1) calculus and (2) at least two more science courses (Bio, Chem, ESS, Phys) appropriate for a major in the respective discipline.

Denison: Requirements incorporated in individual majors and many offer B.A. or B.S. degree:

Biology: Bachelor of Science in Biology. The requirements for the Bachelor of Science degree in Biology include a total of fourteen courses: three biology core courses (BIOL 210, 220, 230), five 300-level biology courses (one of which must be designated a “biological diversity” course), one year of introductory level chemistry (CHEM 131 and 132), and four "science cognate" courses. The science cognate requirement is the lone distinction between the B.A. and B.S. degrees, serving as a means for B.S. majors to become more broadly trained in the sciences.

Chemistry: All chemistry majors must complete nine common courses (Atoms & Molecules: Structure & Dynamics, Organic Structure & Reactivity, Intermediate Organic Chemistry, Intermediate Biochemistry, Intermediate Physical Chemistry, Molecular Biology and Unicellular Life, Calculus I & II, General Physics I, plus the Capstone. B.A. majors must take one additional 300-level course and two additional 300 or 400-level CHEM courses. B.S. majors must take Intermediate Inorganic, Intermediate Analytical Chemistry, four additional 400-level CHEM courses, and General Physics II.

Computer Science: B.S. degree has three more courses than the B.A. degree.

Mathematics: Bachelor of Arts The minimum requirement for the Bachelor of Arts in Mathematics are the CORE courses and (1) MATH 321 or MATH 322, (2) a second FOUNDATIONS course from 321, 322, 329, 331, or 332, and (3) two 300 or 400-level math electives (excluding 361-362, 363-364, 451-452). Bachelor of Science The minimum requirement for the Bachelor of Science in Mathematics are the CORE courses and (1) MATH 321, 332, and either 322 or 329, and (2) three additional 300 or 400-level math electives (excluding 361-362, 363-364, 451-452).

Physics: The B.A. degree requires Physics 125, 126, 127, 200, 201, 211, 305, 306, 312, and two semesters of 400-level (1 credit each). The B.S. degree includes all requirements for the B.A. degree plus two additional Physics courses: 330, and one additional Physics or Astronomy course at the 200-level or above.

Psychology: The B.A. degree in Psychology requires the completion of ten courses in Psychology. The B.S. degree in Psychology requires the completion of eleven courses in Psychology and four cognate courses from the Natural Sciences Division departments outside Psychology (excluding Astronomy and Neuroscience); Environmental Studies is not in the Natural Sciences Division.

St. Lawrence: The degree of Bachelor of Science is given on the satisfactory completion of programs of study with concentration in the fields of biology, biology–physics, biochemistry, chemistry, computer science, conservation biology, economics–mathematics, environmental studies (combined majors), geology, geology–physics, mathematics, neuroscience, physics and psychology, statistics, or a multi-field program with concentration in two or more of these fields. Either the Bachelor of Arts or Bachelor of Science degree may be elected upon satisfactory completion of a double major if one of the majors is appropriate to the degree. A multi-field major may elect either the degree of Bachelor of Arts or Bachelor of Science when the major consists of two fields and each is appropriate to a different degree.

Muhlenberg: Muhlenberg offers two degree programs: the Bachelor of Arts (A.B.) and the Bachelor of Science (B.S.). A.B. majors include accounting, American studies, anthropology, art history, art studio, business administration, dance, economics, English, film studies, finance, French, history, international studies, Jewish studies, media and communication, music, philosophy, philosophy/political thought, political economy and public policy, political science, psychology, public health, religion studies, Russian studies, sociology, Spanish, and theatre. B.S. majors include biochemistry, biology, chemistry, computer science, environmental science, mathematics, natural science, neuroscience, physical science, and physics.

The College of New Jersey: B.S. majors include biology, chemistry, computer science, physics, health and exercise science, economics (also B.A.) business administration, and accountancy.

DREW UNIVERSITY
COLLEGE ADMISSIONS REPORT TO FACULTY

Robert J. Massa
Senior Vice President for Enrollment
January 25, 2019

The undergraduate admissions application season is about half over at this point. With 78 early deposits in so far, we have another 30 applications to review for ED 2. We have read 1650 Early Action applicants, admitting 1350 of them, and those decisions are set to be mailed on Thursday, January 24. Overall, the Early Action group is stronger than the applicant pool in general – hence the higher admit rate (81% v 69% total last year). The initial offered discount rate in the EA group is 47%. It will grow as those with higher awards tend to deposit.

We are on track to receive 3900-4000 applications, short of the 4300 we needed in order for us to admit 2950, yield 16% and enroll 470 first year students. We can, however, achieve the same result with 4000 applicants, admitting 2750 and yielding at a little over 17%. **THIS IS TOTALLY DOABLE**, since our yield rose from 13% in 2014 to 17% in 2015 and 18% each in 2016 and 2017 before dropping to 16% this past year (I still believe that drop, primarily in NJ, was due to the fact that students who applied to Drew because of the price decrease ultimately found it too expensive once they received their aid awards). We will have to step up our yield tactics in order to meet our goals, and we now have a plan in place to do that. We will, of course, be calling on faculty to help, and you will be hearing from my staff shortly. It will involve what you always do – opening up your classes to admitted students and attending our admitted student day programs, but we will also ask you to send some targeted personal emails (we'll provide a template) that will be coordinated through department chairs.

The following will provide a sense of our progress this year over last – which was a banner year with an 18% application increase! The data presented are as of Monday, January 21.

	Fall '19	Fall'18	% difference
First Year Applications	3308	3192	3.6%
Early Deposits	78	75	4.0%
Discount Rate for ED	50.6%	57.9%	7.3 pts.
Hard Inquiries	19,404	11,169	73.0%
All Campus Visits (July-Jan)	1,011	964	4.9%
January Interviews	149	44	247.0%

We have a Discover Drew Day on Saturday, January 26, and to date we have 150 registered, the majority of whom are seniors. We expect another 20 to 30 more registrants in the next few days (this compares to a total of 152 last year). There will be some admitted students in the group as well as some juniors, and you will be able to tell by their name tags. If you plan to attend our breakfast session in the Commons between 8:15 and 9 am on Saturday, thank you!

And speaking of "thank you"….when MaryAnn invited me to join the staff at Drew after five months as an enrollment consultant, I was willing to delay my "retirement" for three years. Four years later, I can honestly say it has been my privilege to work with you and to help bring some stability and growth to the undergraduate enrollment at Drew. In the months before my successor arrives, Colby McCarthy will serve as Interim VP. I will be available part-time and off-campus to help Colby and Jim Skiff where needed, but I have high confidence in their ability to deliver the class.

As you know, I have been at some excellent institutions in my 45-year career, and I mean it when I say that Drew's faculty is as excellent as any faculty with whom I have worked. Thank **you** for **your** support. With all of the challenges that are ahead for Drew and for all small colleges, I am confident that this institution will emerge well-positioned for success in large part because of what you do day in and day out.

With gratitude and best wishes,

Bob Massa

Drew University Fundraising Reports
FY2019
FY18 - FY19 Comparison
July 1, 2018 to November 30, 2018

	FY19			FY18			FY18 Final
	YTD Received	Goal	% to Goal	YTD Received	Goal	% to Goal	
Total Philanthropic Commitments	$1,517,431	$12,000,000	13%	$2,647,754	$12,000,000	22%	$10,349,308
Total Cash & Irrevocable Deferred Gifts	$1,754,369	$8,000,000	22%	$2,086,890	$8,000,000	26%	$8,507,241

Drew University Fundraising Reports
FY2019
FY19 By Purpose and Source
July 1, 2018 to November 30, 2018

Giving by Purpose

	Total Philanthropic Commitments	Cash and Irrevocable Deferred
Capital	$0	$107,051
Endowment	$429,972	$387,817
Restricted	$487,668	$625,799
Unrestricted	$599,791	$633,702
• *Annual Fund*	*$312,161*	*$346,072*
• *MEF*	*$287,630*	*$287,630*
Giving by Purpose Total	**$1,517,431**	**$1,754,369**

Giving by Source

	Total Philanthropic Commitments	Cash and Irrevocable Deferred
Trustees	$140,641	$281,641
Alumni	$518,957	$458,192
Friends	$350,023	$356,484
Corporations	$67,315	$42,557
Foundations	$29,612	$199,612
Other Organizations	$410,883	$415,883
Giving by Source Total	**$1,517,431**	**$1,754,369**

Annual Fund Report
July 1, 2018 to November 30, 2018

	Cash	Pledge Balance	Total	Goal	% to Goal	Average Gift
FY19	$346,072	$310,906	$656,978	$1,650,000	40%	$620
FY18	$410,473	$129,918	$540,391	$1,300,000	42%	$612
Increase (Decrease) from FY16	($64,401)	$180,988	$116,587			$8
Increase (Decrease) Percentage	(16%)		22%			1%

Participation (All Funds)

	FY19				**FY18**			
	Percentage	**# of Donors**	**Goal**	**Donors Needed**	**Percentage**	**# of Donors**	**Result**	**Donors Needed**
CLA	5%	642	26%	2,724	5%	633	18%	n/a
DTS	6%	224	19%	464	5%	202	15%	n/a
CSGS	3%	71	14%	226	3%	65	10%	n/a

UNIVERSITY LIBRARIAN'S REPORT
For CLA Meeting of January 25, 2019

The Libraries and Instructional Technology are continuing to restructure services, and some of your contacts may have changed as a result. Please refer to our websites for current contact information:
Library Staff overview: http://www.drew.edu/library/about/staff/
Subject Librarians: http://libguides.drew.edu/librarians/major-program

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. We are also glad to feature current works in the LC Lobby exhibit case.

Please share this information with other colleagues as appropriate, and don't hesitate to contact me with any questions. With all best wishes,

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

RESOURCES

Important notice about requesting films for classes

Because some of the films requested and licensed on Kanopy in 2018 were never viewed, the Library would like to clarify the options for obtaining films for classes.

You may request a license from Kanopy and Swank, with a cost of $100-$120. (covered by the Library). Certain Kanopy films (from the 5 most popular suppliers) are available to view on demand. The 4th play triggers an automatic purchase for $120.

Kanopy Films from all other suppliers must be requested on the Kanopy site, (you will see a form for requesting it) and the Library checks all options before purchasing the license.

If the video you request is already available on DVD at the Library, or can be purchased for minimal cost, we suggest using the DVD if at all possible. Many films are also available from other streaming services (Netflix, Amazon Prime, Google Play, ITunes) for a minimal cost (usually $1.99 - $5.99 per film)

We strongly encourage you to use other options whenever possible, before requesting Kanopy or Swank films. The Library can help you determine access options via the Media Purchase Request form or by requesting a film directly on the Kanopy or Swank site.

See more details here. Thank you for your cooperation.

Database Trials Nearing Completion:

- Oxford Handbooks Online (ends Feb 15)

From the website:
… *Oxford Handbooks Online*… brings together the world's leading scholars to discuss research and the latest thinking on a range of major topics. Each Handbook offers thorough introductions to topics and a critical survey of the current state of scholarship, creating an original conception of the field and setting the agenda for new research. Handbook articles review the key issues and cutting-edge debates, as well as providing arguments for how those debates might evolve.

(continued)

- HeinOnline (ends March 15)

HeinOnline is a fully searchable, image-based government document and legal research database. It contains comprehensive coverage from inception of both U.S. statutory materials, U.S. Congressional Documents and more than 2,500 scholarly journals, all of the world's constitutions, all U.S. treaties, collections of classic treatises and presidential documents, and access to the full text of state and federal case law powered by Fastcase. This Government, Politics & Law HeinOnline's database package includes, among other things, special collections on Criminal Justice, History, Foreign Relations, Religion and the Law and Women and the Law.

Please try and them out and provide any feedback to Kathy Juliano (kjuliano@drew.edu) or any librarian.

INSTRUCTIONAL TECHNOLOGY

Welcome to Danielle Reay, Digital Scholarship Technology Manager, who started her Drew appointment on January 14. Ms. Reay comes to Drew from New Jersey Institute of Technology, where she served as Architecture, Art, and Design Library Specialist. Her prior experience includes appointments in Digital and Access Services at Yale, and as Special Collections Assistant at Princeton's Marquand Library of Art and Archaeology. Ms. Reay holds the MLIS from Rutgers, the MA in Cinema Studies from NYU, and a BA in History with Honors from Drew University. Many thanks to Shawn Spaventa, Lee Arnold, Brian Shetler, and Wendy Kolmar for their service on the search committee to recruit for this strategic position. Danielle can be reached at dreay@drew.edu

WORKSHOPS

All Instructional Technology workshops will be held in the Media-Tech Classroom (Academic Commons on main floor of Library/Learning Center).

Google Drive

About:

Google Drive is a great set of tools to promote collaboration and facilitate editing and grading of documents, presentations and spreadsheets. Participants will learn the technical skills to use Slides, Sheets and Docs for enhancement of student learning. We will discuss how to apply pedagogical best practices to implement effective assignments.

Times:

Jan 28th @ 2pm

Engaging 21st Century Learners

About:

21st century learners consist of a mix of Gen X, Millennials, and iGeneration students, who are demanding a "student centered" approach to learning. In this session, we will discuss the evolving academic strategies and psychology in order to motivate this range of learners.

Times:

Jan 29th @10 am
Feb 4th @ 2 pm
Feb 14th @1:30 pm

(continued)

Domain of One's Own

About:

The Domains of One's Own project allows students, staff, and faculty to register their own domain name and associate it with a hosted web space and other internet services. Within this space, users can share coursework, scholarship, a personal or professional blog, activist or community work or create various other digital projects.

Times:

Jan 30th @10:30 am
Feb 13th @ 10:30 am
Feb 21st @ 1:30 pm

Moodle Basics

About:

Get familiar with Moodle, Drew's Learning Management System. This session will include helpful tips for navigating your course, uploading resources, adding learning activities, and best practices for online learning.

Times:

Feb 7th @ 1:30 pm
Feb 11th @ 2 pm

Google Forms

About:

Google Forms is an innovative tool that can be used many ways in the classroom. Gathering information from students, assessing student understanding and gathering data are the most popular ways Forms can be used in the classroom. In this workshop, faculty will learn all the basic technical skills needed to implement this tool to enhance their course curriculum.

Times:

Jan 31st @ 1:30 pm
Feb 12th @ 10 am

VoiceThread

About:

Spice up your lecture notes, recordings, PowerPoints, documents, and more with VoiceThread. This tool allows you to add discussion around a static document, webpage, or piece of media. You can add various types of comments such as voice, webcam, text, or even call in a voice comment from your phone.

Times:

Feb 18th @ 2 pm

Zoom Basics

About:

Zoom is the preferred web conferencing platform at Drew. Stop by to learn the basics of how to schedule a meeting, how to navigate the features and what are the best practices for using Zoom.

Times:

Feb 19th @ 10 am

Gamification in Moodle

About:

One of the strategies to motivate 21st century learners is adding elements of games to "serious" contexts like academia. Moodle has mechanisms such as restrict access, activity completion, progressive scoring, badging, and more to assist in (easily) adding game-like elements to your course.

Times:

Feb 20th @ 10:30 am

As always, if you have any technology or Moodle related questions please contact the Service Center at **973-408-4357** or create a support ticket at help.drew.edu.

EXHIBITS AND EVENTS

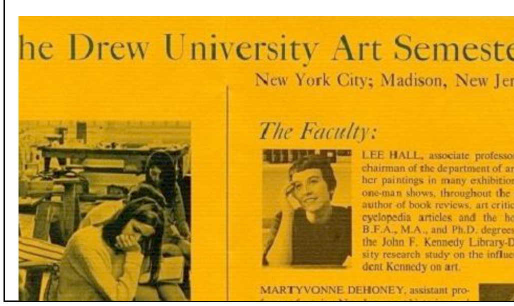
January 29, 2019 (afternoon)

Madison Public Library @ Drew

Did you know that Drew students are eligible for borrowing privileges at the Madison Public Library, and that Drew faculty and staff are eligible for courtesy cards? Stop by the LC lobby to meet MPL representatives and register. See http://www.madisonnjlibrary.org/about-mpl/borrower-services/ for eligibility and ID requirements.

January 14, 2019 – March 15, 2019

New York Semester on Contemporary Art: The First Decade, 1967-1977


he Drew University Art Semeste

New York City; Madison, New Jer

The Faculty:

LEE HALL, associate professor
chairman of the department of art
her paintings in many exhibition
one-man shows, throughout the
author of book reviews, art critici
cyclopedia articles and the ho
B.F.A., M.A., and Ph.D. degrees,
the John F. Kennedy Library-D
sity research study on the influe
dent Kennedy on art.

MARTYVONNE DEHONEY, assistant pro-

January 31, 2019 | 5 p.m.

Opening Reception for New York Art Semester Exhibit

United Methodist Archives and History Center

Speakers: Kim Rhodes and Shayna Miller
The exhibit curators will discuss their process of putting together the exhibit and share their insights about the importance of New York Art Semester on Contemporary Art

February 19, 2019 l 6pm
LECTURE, SPRING 2019

"Drag is so much more than gay men dressing up as women. It's about creating space and creating validity for people who want to express gender differently and by their own rules." (Sasha Velour (NPR)

Drag as an Art Form: Panel Discussion by Drag Queen Pissi Myles and Photographer David Ayllon

United Methodist Archives and History Center

Pissi Myles (Joseph D'Angio) has been noted as one of the most talented drag queens in the NY area by fans, critics, and peers. She's been featured in Cosmopolitan Magazine, Mic, RuPaul's What's the T Podcast, and more! Photographer David Ayllon's work has been featured in the Huffington Post, NEXT Magazine (cover), and Rangefinder Magazine. Some of his clients include Rupaul's Drag Race contestants Katya, Monet Xchange, Miz Cracker, Shea Coulee, as well as Drag Race winners Bob The Drag Queen, Alaska, Trixie Mattel, and Sasha Velour. The discussion will focus on the history and culture of drag, and how it is (and should be) recognized as an art form. Co-sponsored by The Sexuality and Gender Alliance, WoCo, The History Club, the Art Club, and the Art History Club.

Performance to Follow

George and Alicia Karpati Lecture

March 14, 2019   8:00 p.m.
Dorothy Young Concert Hall

Dr. Omer Bartov, the John P. Birkelund Distinguished Professor of European History and a professor of German Studies at Brown University, will be the guest speaker for Drew's 2019 George and Alicia Karpati Lecture. A book signing will follow Dr. Bartov's talk. The program was established in 2005 by Michael and Noemi Neidorff in honor of Noemi's parents, bringing outstanding authors and scholars to Drew in the fields of Jewish/holocaust studies and Eastern European history. Prior speakers have included Elie Wiesel, Daniel Mendelsohn and Robert Fisch. Proceeds benefit the library's book endowment fund.

CommonsCon 2019
March 15th 11am-3 pm
Academic Commons (Main Floor Library)

Interested in finding new ways to enhance your courses and engage students? Come check out Instructional Technology's yearly event, where faculty, students and staff show the community the most innovative ways they have been using technology on campus. Talk with Instructional Technology staff about different classroom strategies and demos on how you can use technology in your courses.

OUT OF THE VAULT SERIES, SPRING 2019

The Out of the Vault series is sponsored by the Department of Special Collections and University Archives of the Drew University Library. Each interactive session introduces participants to a particular collection or set of materials while providing opportunities for engagement with the materials. The sessions take place in the Wilson Reading Room of the United Methodist Archives and History Center and are free and open to the Drew community and general public. For additional information please email speccol@drew.edu or call 973-408-3590.

Tuesday, February, 5 2019 l 4 pm

Valentines and Adoration in the Archives

United Methodist Archives and History Center

Hosted by Drew Library staff, this event showcases letters and documents of love, adoration, and affection from Abelard and Heloise to present day. The event will include a brief history of the valentine and discussion of its popularity.

Tuesday, March 5, 2019 l 4 pm

Folklore and Superstition in the Archives

United Methodist Archives and History Center

Did you know the Drew University Special Collections houses a collection of books on witchcraft? Books concerning folklore, superstition, and magic are shelved throughout the collections including prayers to ward off the plague, a book owned by a cannibalistic witch doctor, and a book of ancient charms. Come and see what these mysterious volumes have to offer!

Tuesday, April 2, 2019 l 4 pm

DC VERSUS MARVEL!

United Methodist Archives and History Center

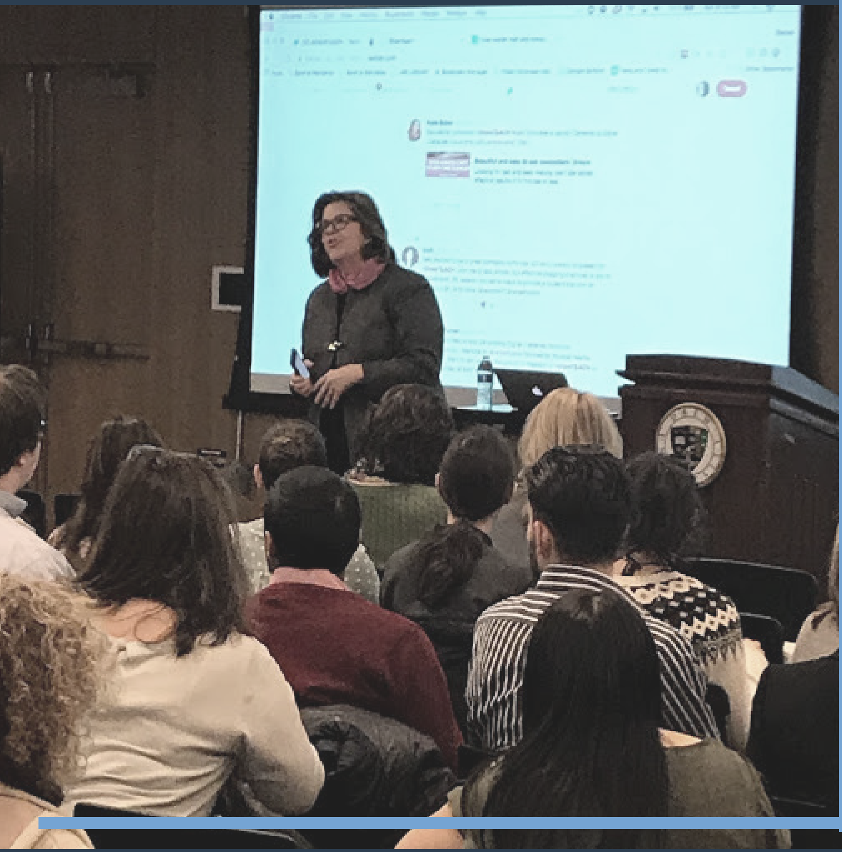
Come explore one of the greatest rivalries in comic book history: DC vs. Marvel! This tumultuous competition goes back 80 years, and has played itself out in the pages of comics and graphic novels. Fans of both publishers will find lots to fight over at this event! On display will be new donations of comic books accompanied by a discussion of comic adaptations and an exploration of the worlds of Marvel and DC!!

DrewTEACH
Developing Literacies Conference: ***Social Justice in the 21st Century Classroom***

Presented by Drew Writing Project and the Digital Literacies Collaborative

Saturday February 2nd, 9am-3pm
@Drew University

Visit DrewTEACH.org for registration and pricing information



How can we foster digital citizenship?

How can our own practice be more culturally responsive?

How can meditation and self-care promote better learning and stronger classroom communities?

Explore these questions and more!

Featuring interactive workshops and a keynote by Dr. Nicole Mirra, "*Teaching Critical Civic Empathy in Troubled Times*"

The Drew Review

Submit your research papers by

FRIDAY, Feb. 15th.

Submit to: drewreview@drew.edu.
Only one professor's nomination is necessary.

Questions? Email us.

Sturgis Standard Code of Parliamentary Procedure

<u>Summary:</u>

Basic Rules of Precedence:

1. When a motion is being considered, any motion of higher precedence may be proposed, but no motion of lower precedence may be proposed.
2. Motions are considered and voted on in reverse order to their proposal. The motion last proposed is considered and disposed of first:

Common Motions in Order of Precedence:

LANGUAGE		Interrupt Speaker?	Second Needed?	Motion Debatable?	Vote Needed?
Privileged Motions: Motions of urgency entitled to immediate consideration.					
1.*Adjourn the meeting.	I move that we adjourn.	NO	YES	YES**	MAJORITY
2. *Recess the meeting.	I move that we recess until…	NO	YES	YES**	MAJORITY
3. Questions of Privilege (Noise, temperature, etc.)	I raise the question of privilege….	YES	NO	NO	Decided by presiding officer
Subsidiary Motion: Motions which alter the main motion, or delay or hasten its consideration.					
4. Postpone temporarily	I move we table the motion..	NO	YES	NO	MAJORITY
5. Close debate	I move to close debate and vote immediately.	NO	YES	NO	TWO THIRDS
6. *Limit or extend debate	I move that the debate on this question be limited to…	NO	YES	YES**	TWO THIRDS
7. *Postpone to a certain time	I move we postpone this matter until…	NO	YES	YES**	MAJORITY
8. *Refer to committee	I move we refer this matter to committee.	NO	YES	YES**	MAJORITY
9. *Amend	I move that we amend this motion by…	NO	YES	YES**	MAJORITY
Main Motions: Motions bringing substantive proposals before the assembly for consideration and action.					
10. * Main motions and restorative main motions	I move that….	NO	YES	YES	MAJORITY

The following motions can be offered whenever they are needed and have no order of precedence. They should be handled as soon as they arise.

LANGUAGE		Interrupt Speaker?	Second Needed?	Motion Debatable?	Vote Needed?
Incidental Motions: Motions that arise incidentally out of the business at hand. They relate to matters incidental to the conduct of the meeting.					
1. Appeal a decision of the chair	I appeal the chair's decision.	YES	YES	YES	MAJORITY
2. Suspend the rules	I move to suspend the rules and...	NO	YES	NO	TWO THIRDS
3. Point of Order	I rise to a point of order	YES	NO	NO	Decided by presiding officer
4. Raise a question relating to procedure.	I rise to a parliamentary inquiry.	YES	NO	NO	Decided by presiding officer
5. Withdrawal of a motion	I move to withdraw my motion.	YES	NO	NO	MAJORITY
6. Separate a multi-part question for voting purposes	I move division on the question.	NO	NO	NO	MAJORITY

*Can be amended

**Debatable if no other motion is pending.

Note: General Consent is a way of saving time by avoiding votes on routine or non controversial matters. After a motions has been moved and seconded the presiding officer may ask if there are any objections. If anyone objects, a vote must be taken on the action. If there are no objections, the matter has been decided by general consent. The presiding officer may also propose actions by general consent without any motion. If anyone immediately objects, the question must be stated and voted on in the usual way