

AGENDA

UW-GREEN BAY FACULTY SENATE MEETING NO. 2

Wednesday, October 10, 2018

1965 Room, 3:00 p.m.

Presiding Officer: Gail Trimberger, Speaker

Parliamentarian: Steve Meyer

1. CALL TO ORDER

2. APPROVAL OF MINUTES OF FACULTY SENATE MEETING NO. 1

September 12, 2018 [page 2]

3. CHANCELLOR'S REPORT

4. OLD BUSINESS

- a. Request for Authorization to Implement a Bachelor of Fine Arts (second reading) [page 9]
Presented by Rebecca Meacham
- b. Select Mission for UW-Green Bay (second reading) [page 21]
Presented by Chancellor Gary L. Miller

5. NEW BUSINESS

- a. Request for Authorization to Implement a Bachelor of Science Degree in Water Science (first reading) [page 22]
Presented by Kevin Fermanich
- b. Request for Future Business

6. PROVOST'S REPORT

7. OTHER REPORTS

- a. Academic Affairs Council Report (no report this month)
- b. University Committee Report – Presented by UC Chair Courtney Sherman
- c. Faculty Representative Report – Presented by Christine Vandenhouten (page 38)
- d. University Staff Report – Presented by Jan Snyder (page 40)
- e. Academic Staff Report – Presented by Jamee Haslam (page 41)
- f. Student Government Report – Presented by Selena Deer

8. ADJOURNMENT

[draft]

MINUTES 2018-2019
UW-GREEN BAY FACULTY SENATE MEETING NO. 1

Wednesday, September 12, 2018
1965 Room, University Union

Presiding Officer: Gail Trimberger, Speaker of the Senate
Parliamentarian: Steve Meyer, Secretary of the Faculty and Staff

PRESENT: Heather Clarke (BUA), Jason Cowell (HUD), Christin DePouw (EDUC), Mike Draney (NAS), Hernan Fernandez-Meardi (HUS), Greg Davis (Provost, *ex-officio*), Joan Groessl (SOCW), Stefan Hall (HUS), Richard Hein (NAS), Maruf Hossain (NAS), Dana Johnson (SOCW), Mark Klemp (NAS-UC), Jim Loeb (BUA-UC), Kaoime Malloy (THEATRE), Ryan Martin (HUD-UC), Gary Miller (Chancellor, *ex-officio*), Paul Mueller (HUB), Rebecca Nesvet (HUS), Megan Olson Hunt (NAS), Uwe Pott (HUB), Matthew Raunio (BUA), Bill Sallak (MUSIC), Sawa Senzaki (HUD), Jon Shelton (DJS), Courtney Sherman (HUS-UC), Gail Trimberger (SOCW-UC), Katie Turkiewicz (ICS), Brenda Tyczkowski (NUR), Kristin Vespia (HUD-UC), Sam Watson (AND), Aaron Weinschenk (PEA), Brian Welsch (NAS), and Julie Wondergem (NAS-UC)

NOT PRESENT: Sampath Ranganathan (BUA)

REPRESENTATIVES: Jan Snyder and Kim Mezger (USC), Lynn Niemi (ASC), and Selena Deer (SGA)

GUESTS: Scott Ashmann (Assoc. Dean, CHESW), Janet Bonkowski (Executive Director, Marketing & University Communications), Kate Burns (Assoc. Prof., HUD), Matt Dornbush (Assoc. VC for Academic Affairs/Director of Graduate Programs), Clifton Ganyard (Assoc. Provost), Paula Ganyard (Director, Cofrin Library), Bud Harris, Doreen Higgins (Assoc. Prof., SOCW), Jennifer Jones (Director, Admissions), Ben Joniaux (Chief of Staff), John Katers (Dean, CSET), Holly Keener, Mike Kline (Men's Cross Country Coach), Upal Mahfuz (Asst. Prof., NAS), Rebecca Meacham (Prof., HUS), Amanda Nelson (Assoc. Dean, CSET), Chuck Rybak (Dean, CAHSS), Sheryl Van Gruensven (Vice Chancellor for Business and Finance), Bob Wenger, Paul Willems, and Mike Zorn (Associate Dean, CSET)

1. CALL TO ORDER.

Like a seasoned professional, Speaker Gail Trimberger “got the party started” at 3:02 p.m. calling to order the first Faculty Senate meeting of the 2018-19.

2. APPROVAL OF MINUTES OF FACULTY SENATE MEETING NO. 8, April 25, 2018

Minutes from the last Faculty Senate meeting of 2017-18 were declared wunderbar (no, that is not a new type of chocolate candy) and passed via consensus.

3. SENATOR INTRODUCTIONS

Each senator – veteran, rookie, and brand new colleagues from the Branch Campuses – was asked to introduce him/herself. As an added touch, each brought with them a stack of trading cards with their likeness on one side and their statistics on the other. Hold on to them, those rookie cards will be valuable in the future.

4. CHANCELLOR'S REPORT

After welcoming everyone back to a new academic year, Chancellor Miller called everybody's attention to the activities and new traditions being started in Student Affairs. During FOCUS Orientation, over 500 freshmen participated in a Student Service Project at Bay Shore County Park. This was followed by a trip to Lambeau Field where students enjoyed dinner, music, and entertainment in the (air-conditioned) luxury suites. Students also participated in the first ever Student Convocation held in the Weidner Center.

There is good news to pass along in a number of areas. Enrollment numbers are very encouraging. The August Board of Regents was very good for UW-Green Bay with four big items on the BoR agenda: two major programs were green-lighted (Bachelor of Science in Nursing and the IMPACT MBA), the name changes for the three campuses, and the approval for a lease associated with the STEM Innovation Building. UW-Green Bay was called out (in a good way) by the BoR for their forward thinking on many issues, including the collaborative efforts associated with Project Coastal.

The Chancellor and his administration are executing a community engagement process, developed by Huron Consulting, to engage certain constituent groups within the Marinette, Manitowoc, and Sheboygan communities. Basically, the administration is asking about the perception of UWGB and how our academic programs fit into these communities. This information gathering process will continue through the Fall semester, with the information being shared with the UC and Faculty Senate. The information will then be integrated into a university strategy such that by January there should be a 5-year plan developed as we move forward with a one university-four campus-sixteen county system. In visiting with the communities within the 16 counties, Chancellor senses a little uncertainty, but overall people are anxious to get started. The number of opportunities for faculty and students (in research and engagement activities) are vast. UWGB's leadership team continues to meet with prominent business leaders, school district superintendents, government officials and legislators, etc.

Chancellor Miller then shared what he knew about the state budget. The budget does have a little more money in it along with some key flexibility provisions (e.g., revenue bonding capacity, which allows the state to go into building projects more easily). The budget has been approved at the Regent level. If the Governor heeds the advice of the Regents, there will be a \$1.7M base increase in the budget for UWGB to build capacity in health sciences (based on a proposal developed by Deans Gallagher-Lepak and Rybak – a great team effort!). The budget process may take longer this year due to the gubernatorial election, so do not expect any resolution to the budget before July.

Next week, the STEM Innovation Center has its ground-breaking ceremony on Monday, September 17. The Council of Trustees meets on Tuesday, September 18. On Wednesday, September 19, there will also be a major announcement at TitleTown Tech.

5. OLD BUSINESS

A prudent 2017-18 Faculty Senate left no old business to attend to and so the 2018-19 Faculty Senate will start with a clean slate of new business.

6. NEW BUSINESS

a. Election of a Deputy Speaker of the Senate for 2018-19

Speaker Trimberger called for nominations for a Deputy Speaker of the Senate. **Senator Sherman nominated Senator Loebel (seconded by Senator Martin)**. There was no discussion regarding the nomination of Senator Loebel. In fact, the magnanimous nominee so wowed the senate floor that his nomination passed **unanimously 31-0-0**.

b. Special dispensation for appointing Mimi Kubsch to the AAC

SOFAS Meyer informed the Senate of an unusual set of circumstances that beset the Academic Affairs Council (AAC). The Council, consisting of five members, one from each of the four voting domains and one at-large member, lost three members over the summer for various reasons. The two remaining council members were just elected to the AAC the previous Spring semester. Meyer explained that the AAC is one of those committees in which carry over of experienced members is critical. He conferred with Prof. Kubsch, who had just finished a three-year term on the AAC (the past two of which she served as chair), and determined that she was agreeable to completing the last year of the now-vacant at-large seat on the Council. However, 54.02(H) of code states, "After serving for a term, a one year period must elapse before a person becomes eligible to serve again on the same Council." Therefore, Meyer asked the Senate for a suspension of the rules in this particular case to allow Prof. Kubsch to fill the at-large seat on the Council, bringing the experience this committee needs, and serving as a mentor to the new council members. **Senator Vespia moved that the rules be suspended (seconded by Senator Sherman)**. There was no discussion regarding this request and **the motion passed 31-0-0**. As he made his way back to his seat, Meyer was heard muttering something to the effect "if only my wife could be convinced of my logic the way the Faculty Senate was."

c. Memorial Resolution for Dr. David Jowett

Professor Emeritus Bob Wenger was invited to deliver the resolution, which was written with the assistance of Professor Emeritus Bud Harris, Professor Emeritus Paul Sager, Dean John Katers, and Provost Greg Davis. With the approval of the senators, the resolution will be added to the collection of memorial resolutions kept in the Governance Office.

d. Request for Authorization to Implement a Bachelor of Fine Arts (first reading)

Prof. Rebecca Meacham presented an overview of the proposed BFA program. It is a 48-51 credit hour, craft-focused, community-facing program – combining current creative writing courses with internships, practicums, community-based learning, and experiential learning in an interdisciplinary, multi-campus collaboration with the area's tech schools. There are four curricular components to the degree (The Business of Writing, The Craft of Writing, Literary Contexts, and Applied Arts), each dealing with different aspects of professionalizing the students' writing experience. The new degree program will be designated a BFA (as opposed to a BA) to denote the Fine Arts aspect of writing, which is more of an output, craft-focused, and skills-based degree. The BFA is unique with only 42 such programs in the U.S., none in the UW System, and only one in Wisconsin. The BFA would be linked to the UWGB Teaching Press equipment funded through the one-time student retention funding.

e. Revised Select Mission for UW-Green Bay (first reading)

Chancellor Miller reviewed the need for updating the University's Select Mission. It was something that the Board of Regents asked the Chancellor to consider when he first came to UWGB, but action on that request was delayed until now due to the large budget cut in 2015 followed by preparation for last year's HLC accreditation. The Board requested the change because the new programs that UWGB desires/needs would be easier to defend if they aligned with the select mission. Green Bay is the third largest city in the state, but we are the third smallest UW comprehensive institution; thus, we need to align our mission with the "opportunity-space" in which we find ourselves (especially with the addition of our three colleague campuses). We need to remember who we are writing this mission to; it is not to ourselves, but rather the System bureaucracy – the people who make decisions about what UWGB gets, not just academic programs but also the kinds of flexibilities we receive (e.g., financial and building capital). Without a new Select Mission we will continue to be looked upon as a small regional comprehensive university and decision makers will not recognize that we are in the middle of an "ecosystem of opportunity" of which we would like to take advantage. All recently added new programs (Engineering, Impact MBA, Nursing, and Athletic Training) were initially rejected by the System because they did not meet our current mission. It was only through the expenditure of a lot of political capital that we were able to add those programs. We are now a multi-campus university and this new Select Mission would be the only one in System that acknowledges that fact and it would claim for us the entire 16 county area – a bigger region to cover than any institution in the state, besides Madison.

Chancellor Miller then addressed why the Select Mission was structured the way it is. It states up front that we are a "multi-campus comprehensive teaching and research university". UW System's Academic Affairs division initially pushed back on having the word "research" in the proposed new mission, but UWGB administration disagreed and kept it in there. "Select doctoral programs" is in the new mission as an aspiration, we do not want to stop at the one we have, rather we want such a statement to keep the door open to adding more doctoral programs at some later point in time. "Problem focused" is a founding ideal of UW-Green Bay and in talking to employers, our students are better at solving problems and better at working in teams than most other employees they hire. "Interdisciplinary" is no longer found in the Select Mission, it is a key negative word in the UW System – it denotes to them "small" and "just" (as in "UWGB is 'just' ..."). We are not doing away with interdisciplinarity at UWGB, rather we have to stipulate our commitment to interdisciplinarity and show it in the programs we offer and in the way we execute those programs. "Access" is incorporated because we want to embrace more of an access mission in this urban area. Access is not just a minority issue, it is a socioeconomic issue – poverty rates in our 16 county area are larger than most people realize. "Environmental sustainability" was returned to the Select Mission after discussions with the public, taking advantage of the hundreds of miles of shoreline covered by our 16 county area. "Talent development" is a catch phrase in the business community – we use it not in the sense of technical college work, but in the sense of post-secondary talent. We elected to include in our Select Mission a list of our Colleges (not normally seen in a mission statement). We did this to be inclusive and to emphasize our named Colleges (Austin E. Cofrin School of Business and Richard J. Resch School of Engineering) in order to drive home the point to the people who make program decisions based on mission statements that we are successful in recruiting the resources needed to develop new programs. "Diversity, inclusion, social justice" is very important to us, we will not grow if we do not embrace these ideals. We want to support "faculty scholarship" and "innovation". Overall, we

think this is a proactive mission statement about what we are and what we want to be. Our current mission is a list of values, it is “inward facing,” and has been an impediment to us getting the programs that have recently been approved – we had to fight hard to get the new programs and they would not have been approved without the current Board and President. We have a narrow window to get this accomplished – we have the right President, the right Board, the right community support, and the right configuration of campuses. The Chancellor believes our proposed mission is “outward facing” and will lead to a better resource stream for us.

Remarks and comments regarding the proposed Mission from the senate are summarized below:

- Not so much troubled by the substance of the revised Select Mission, but what is troubling is the way in which shared governance and collaboration is missing from the process, which started at the very end of last Spring semester with listening sessions. The mission is something that drives what we do every day – the work done in the classrooms in which we teach, the committees on which we serve – and we need a mission about which we are excited. There is skepticism regarding the feeling that we cannot do all the things we want to do under the current mission; after all, Chancellor Miller has done a great job of bringing programs and resources to UWGB under the current mission. (Chancellor Miller’s response: We are getting new programs and resources, but we are expending tremendous political capital to do so; don’t underestimate the incredible political clout it requires to maintain baby steps in this system; nobody in the Chancellor’s position can continue to invest that much personal political interaction to get something that everybody in this room and in this community knows we need).
- A research/scholarship university is not an institution where just a few faculty do real good research, rather it is a university that has the infrastructure to give faculty the opportunity to do research. What research university has the teaching load that we have – especially in light of rumored discussions of a 24 credit-hour teaching load? Solution: give faculty teaching credits for scholarship completed with students.
- Would like to see more about the goals and the vision and less a summary of what we do. Would like to see more of the theory behind the practice.
- The values and ideals expressed by the current mission are not contained in the new mission. The new mission reads too much like a laundry list, “here is what we have to offer.”
- Could we include more of our values in the last paragraph?
- If the Faculty Senate voted against it, the Chancellor could still push forward the new mission, correct? (Chancellor Miller’s response: That is technically true through Board of Regent policy, but that does not make any sense. He wants the faculty’s support and we need to work together to get this done. Further, he must get the community’s support.)
- Concern from the Branch Campuses stems from adding both the teaching and research to the language of the mission. They are already teaching a 24-credit hour load, inhibiting the research they can do.
- Why the hurry? We should take our time and get it right, we should think about where we really want to go with the mission statement.
- If there are changes made, two core ideas that need to remain from the Branch Campus perspective: 1) the multi-campus university, and 2) the open access to the university. The

thing that is lacking, especially in the last paragraph, is our focus on teaching and learning. Teaching and learning needs to be emphasized just as much as research and scholarship.

- The use of the term “world class” related to undergraduate, masters and select doctoral programs was questioned as being too general.
- One thing that is lacking is a statement regarding preparing our students for academic excellence, after all that is what we do.
- Community member, alumnus (class of 1975), and UWGB Alumni Association Board of Directors member (although he is not representing the Board), Paul Willems, came forward to read a prepared statement regarding the proposed new Select Mission. Mr. Willems raised five points:
 - The proposed mission statement removes key terms such as “multicultural,” “interdisciplinary,” “liberal arts,” “investigations,” and “knowledge,” while adding terms like “economic development” and “talent development.”
 - There is suspicion regarding the motivation and timing of the proposed new mission. In particular, “Is the governor and the legislature, through pressure on the UW System Board of Regents trying to do what they were unable to do regarding removal of the tenants of the “Wisconsin Idea” from the UW system through requiring rewriting of mission statements at system campuses?” and “Are we seeing systematic pressure to eviscerate the tenants of a liberal education in favor of a “job training” focused institution?”
 - Concern over the loss of the national and global branding value we have amassed over these past 51 years as a university with a significant focus on the study of, and search for solutions to, problems related to the environment.
 - 34,000+ graduates have gone out into the world armed with a diploma from a university that provided an interdisciplinary, problem-focused educational experience that prepared them to think critically and address complex issues in a multicultural and evolving world. It sure seemed to work for them.
 - Any mission statement will become the “foundation planning document” for the university and thus give justification for changes in focus that I fear will make the UW-Green Bay an institution struggling, and already late in the development curve, behind other schools focusing on entrepreneurship and business studies.
- We should add back into the proposed mission a statement about “engaged citizenship,” “truth,” and “knowledge.”
- In reading missions of other institutions, there seems to be an inverse relationship between how inspirational it is and how useful it is. Keep in mind the audience is not us, it is not the parents of students, it is the groups who provide resources to the university.

f. Request for future business (to be read in limerick form)

The Faculty Senate of GB

Added new members, count them there's three

From Marinette, Manitowoc, and Sheboygan

Come September let the senate fun begin

With open arms we welcome you gladly

(there was no new business brought forward by the senators this month)

7. PROVOST'S REPORT

After welcoming everybody back, Provost Davis stated that one of his main goals this year is to ensure that everybody feels included in one university, the University of Wisconsin-Green Bay, across the four campuses – we are one group! He then thanked everybody because the past couple of years we have been working our way out of large budget deficit due to budget cuts and enrollment declines. We had a goal to increase enrollment by 88 FTE on the UWGB campus in order to avoid a \$600K budget reduction – although final numbers are not yet in, it looks like we will have an enrollment increase of 135-150 FTE this year. At the June Regents meeting, all faculty who went up for promotion with tenure or promotion to full professor were successful (congratulations!!). At the August Regents meeting, the Impact MBA and four-year Nursing programs were approved unanimously.

8. OTHER REPORTS

a. Academic Affairs Council Report. No report this month.

b. University Committee Report. UC Chair Sherman had nothing to share that was not already discussed earlier in the Faculty Senate meeting.

c. Faculty Representative Report. Christine Vandenhouten stated that the faculty representatives met the previous Friday. The main topic of discussion was the program monitoring policy (which is still in draft form, but there is concern about the metrics that are being used). At a June retreat with President Cross, he expressed his desire to streamline transferability for students across System schools.

d. Academic Staff Committee Report. Lynn Niemi reported that there will be a memorial for Prof. Karen Dalke on Thursday, September 13. [Karen was taken from us far too soon in a horseback riding accident in July].

e. University Staff Committee Report. The USC report can be found on page 23 of the agenda. The SOFAS and the Speaker sincerely apologize for failing to recognize the always dependable and ever organized USC Chair, Jan Snyder (sorry, Jan!).

f. Student Government Association Report. SGA President Selena Deer reported that SGA plans to write a grant to raise the majority of the funds needed to purchase solar panels and wind turbines. The remainder of the costs would be covered by SUFAC's \$3.5 - \$6M reserves.

9. ADJOURNMENT at 5:05 p.m.

Respectfully submitted,

Steve Meyer, Secretary of the Faculty and Staff

**REQUEST FOR AUTHORIZATION TO IMPLEMENT A
BACHELOR OF FINE ARTS IN WRITING AND APPLIED ARTS
AT UW-GREEN BAY
PREPARED BY UW-GREEN BAY**

ABSTRACT

The Department of English at the University of Wisconsin – Green Bay proposes to establish a Bachelor of Fine Arts in Writing and Applied Arts (BFA in Writing and Applied Arts, or BFA-WAA). The development of this undergraduate program responds to high student demand for writing craft as well as professionalizing opportunities in related fields like literary and digital publishing, book editing, writing for entertainment, and arts management. Graduates will be better equipped meet market demand for nonfiction writers, science writers, screenwriters, podcasters, literary outreach coordinators, editors, publishers, librarians, booksellers, literary agents, technical writers, and other arts industries. This program will be comprised of 48 credits, which will include 15 credits of tiered writing workshops; courses in the literary, community, and business contexts of writing; and nine credits of Applied Arts (internships or community-based learning), taken during the student’s senior year.

PROGRAM IDENTIFICATION

Institution Name

University of Wisconsin – Green Bay

Title of Proposed Program

Bachelor of Fine Arts in Writing and Applied Arts

Degree/Major Designation

B.F.A./English

Mode of Delivery

Courses will be delivered mainly via a single institution—UW-Green Bay— which now comprises four campuses across 16 counties. Additional instruction is in development through a partnership with Northeastern Wisconsin Technical College (NWTC). Courses will be delivered primarily via face-to-face or hybrid formats. No more than 50% of courses will be delivered via Distance Education. Supervised practicum, internships, and experiential learning experiences will occur at a number of community sites.

Projected Enrollments and Graduates by Year Five

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. By the end of Year 5, it is expected 122 students will have enrolled in the program and 55 students will have graduated from the program. The average student retention rate is projected to be 90%, based on English department retention rates.

Table 1: Five-Year Degree Program Enrollment Projections

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	20	20	22	25	25
Continuing Students	10	27	42	50	48

Total Enrollment	30	47	66	75	73
Graduating			10	20	25

Tuition Structure

For students enrolled in the B.F.A. program, standard tuition and fee rates will apply. For the current academic year, residential tuition and segregated fees total \$3,939.16 per semester for a full-time student enrolled in 12-18 credits per semester or \$328.26 per credit. Of this amount, \$3,149.16 is attributable to tuition and \$790 is attributable to segregated fees. Nonresident tuition and segregated fees total \$7,074.12 per semester for a full-time student enrolled in 12-18 credits per semester or \$589.51 per credit. Of this amount, \$6,284.12 is attributable to tuition and \$790 is attributable to segregated fees.

Should the English department maintain its existing numbers, the total graduates from the department across the two majors (English B.A. and B.F.A in Writing and Applied Arts) will be 55 to 60 students per year.

Overall English program enrollments will increase from approximately 140 per year to 200 per year. A 60-student increase would generate approximately \$375,000 more tuition to the campus each year.

Department, College, School or Functional Equivalent

The proposed program will be housed in the Department of English within the College of Arts, Humanities, and Social Sciences.

Proposed Date of Implementation

The first class to be admitted to the program will be **September, 2019**.

DESCRIPTION OF PROGRAM

Overview of the Program

The B.F.A. In Writing and Applied Arts consists of four curricular components.

- The Business of Writing (9 credits)
- The Craft of Writing (15-17 credits)
- Literary Contexts (15 credits)
- Applied Arts—see emphases below— (9 credits)

The Applied Arts component consists of 9 credits of experiential learning during a student's last two semesters. Students may choose from one of three interdisciplinary emphases:

- Community-Outreach Emphasis. Students in the Community-Outreach Emphasis will bring writing to broader communities by organizing regional events and advocating to tell untold stories (ie from veterans, special needs writers, hospice patients, eldercare residents, at-risk youth, prisoners, etc.).
- Editing and Publishing Emphasis. Students in the Editing and Publishing Emphasis will learn the business of storytelling in preparation to become copyeditors, content developers, comic book publishers, and promotional and marketing professionals.
- Digital and Public Humanities Emphasis. Students in the Digital and Public Humanities Emphasis will gain hands-on experience digitizing, researching, and making texts

available and accessible in preparation for careers in podcasting, digital storytelling, graphic book designers, library science, museum curation, or further scholarly research.

Student Learning Outcomes and Program Objectives

- Students will create, draft, and revise original works in multiple genres and forms.
- Students will analyze the techniques, construction, and production of various written expressions.
- Students will critique works by peers and published authors alike in various classroom settings, including the writing workshop.
- Students will situate their work within multiple larger audiences of readers, writers, the publishing industry, and other relevant markets.
- Students will interpret, research, and evaluate works of literature and related media by placing them in historical, philosophical, psychological, intertextual, and other contexts appropriate to the discipline.
- Students will articulate their aesthetic choices using appropriate artistic and professional terms.
- Students will develop proficiency in all stages of producing and disseminating various kinds of media projects in an effort to engage communities within and outside of UWGB.
- Students will use reading, writing, editing, and producing literary texts or related media as an opportunity to deepen their insight into their own experiences and as vehicles for personal intellectual and imaginative growth.

Program Requirements and Curriculum

Table 2 illustrates the program curriculum for the proposed program. The program’s requirements are comprised of 48 credits, which will include 15 credits of tiered writing workshops; 36 credits in the literary, community, and business contexts of writing; and nine credits of Applied Arts (internships or community-based learning), taken during the student’s senior year. General education requirements for UW-Green Bay consist of 39 credits, many of which will be able to be fulfilled with B.F.A. in Writing and Applied Arts courses.

Non-degree requirements for graduation include the student’s maintenance of an e-portfolio of course-related, internship-related, and emphasis-related materials, to be evaluated regularly by program faculty.

Table 2: BFA in Writing and Applied Arts Program Curriculum
Academic program course requirements (listed by degree components)

<i>Degree Component: The Business of Writing (9 credits)</i>	
English 225: Copyediting for Publication	3 credits
<u>One publication practicum:</u> English 324: <i>Sheepshead Review Practicum</i> or English 424: Book Editing Practicum	3 credits
<u>One arts in society class:</u> Humanities 200 Intro to Digital and Public Humanities; Arts Management 257: Arts in the Community; or Design Arts 131: Intro to Design and Culture	3 credits

Degree Component: The Craft of Writing (15-17 credits)

English 212: Introduction to Creative Writing	3 credits
English 301: Intermediate Creative Writing	3 credits
<u>Three upper-level writing workshops:</u> English 302: Short Fiction Workshop, English 303: Poetry Workshop, English 304: Creative Nonfiction Workshop, English 305: Novel Writing Workshop (4 credits), English 306: Novel Revision Workshop (4 credits), or English 312: Topics in Creative Writing	9-11 credits
<i>Degree Component: Literary Contexts (15 credits)</i>	
English 290: Introduction to Literary Studies	3 credits
One lower-level literature course: English 206, 214, 215, 216, 217, 218, 219	3 credits
Two upper-level literature courses: 315, 316, 323, 331, 335, 336, 338, 340, 344, 431, 436	6 credits
One historical literary context course: English 340: History of the English Language or English 326: Topics in Publishing: The Illustrated Book	3 credits
<i>Degree Component: Applied Arts (9 credits)</i>	
Internships or community-based learning in Applied Arts area of emphasis (Community Outreach; Editing and Publishing; or Digital and Public Humanities)	6 credits
Capstone Seminar in area of emphasis	3 credits

Assessment of Outcomes and Objectives

Program Assessment will occur on multiple levels. First, the program will meet regularly with current students—both one-on-one, and in groups of faculty meeting with groups of students, to discuss their work and progress towards degree. On this level, students will be evaluated by the end of their first year, and continuing throughout the program, students will keep an **e-portfolio of course-related, internship-related, and emphasis-related materials**. Individual e-portfolios will be assessed for proficiency by the program director during the student's fifth semester of study. A second e-portfolio review will occur before the student's last semester of study, in a meeting with one or two program advisors, in order to provide the student mentorship, direction, and feedback. This e-portfolio will be a living document consisting of:

1. Selected creative work, revisions, and self-analysis related to the creative writing process
2. Selected scholarly analyses of literature, literary markets, and the history of publication
3. Evidence of successful completed work in their program emphasis
4. Applications for grants, scholarships, and/or awards and outcomes therein
5. Professional resume and headshot
6. Biography suitable for various professional contexts

After student graduation, the program will track, gather, and assess job or graduate school placement and satisfaction rates via alumni surveys and events. For context, the program will compare its post-graduate data with data from other BFA programs in the U.S.

Diversity

Through analysis and study, students in the B.F.A. in Writing and Applied Arts program will directly address **issues of diversity in publishing, community engagement, service learning**—and seek out the underrepresented and un-voiced stories in our campus, local, and regional communities. In the last ten years, several national initiatives have focused on analyzing gender, race, social class, and ability as these experiences shape the content of books and media, as well as the hierarchies of power in the publishing industry (see, for example, *Vida: Women in the Literary Arts*, or *#WeNeedDiverseBooks Inc.*). These initiatives align with UW-Green Bay's commitment to expanding the diversity of the campus community. Our campus engages in several strategic initiatives to recruit a more diverse student population, and offer a wide range of experiences and perspectives throughout a student's undergraduate years. As part of this process, the Chancellor's Council on Diversity and Inclusive Excellence initiated a certificate program designed to develop and recognize commitment to the UW-Green Bay Inclusive Excellence Initiative. The first Level 1 Inclusivity and Equity Certificates were awarded in August 2016. Workshops and seminars for the program are ongoing. In fall 2016, the campus added a Director of Student Success and Engagement in the Provost's Office charged with improving student retention and degree completion. The Office of Admissions on all four campuses also supports recruiters specialized in working with multicultural, bilingual, and international students. Furthermore, unique to Green Bay, the annual *UntitledTown Book and Author Festival* (April) has made deliberate efforts to recruit student volunteers, develop internships, and create a partnership with UW-Green Bay—**forging enduring links between region's largest literary arts festival and UWGB's Multiethnic Students Association (MESA), American Intercultural Center (AIC), and Pride Center.**

Collaborative Nature of the Program

Located in the heart of paper manufacturing country, and a thirty-minute drive from the world-renowned historic Hamilton Woodtype Museum, UW-Green Bay is uniquely situated to connect student writers to the greater world of and various kinds of writing. Our collaborations with **Moraine Park Technical College** and **Northeastern Wisconsin Technical College** are poised to grow; at present, NWTC is developing writing courses in Technical Writing, Natural Sciences, and Communications Skills, and their graphic design program prints in most mediums except books, which UWGB's Teaching Press will produce. UWGB's B.F.A. in Writing and Applied Arts will thus be a natural fit for technical college students wishing to complete further study in writing, publication design, and community engagement. In addition, through this program, UWGB looks forward to strengthening connections with area educators at St. Norbert College, Lawrence University, and elsewhere in **arts entrepreneurship, nonprofit management, funding for small projects, and community storytelling.** Finally, Northeastern Wisconsin, as a region, is fertile ground for the B.F.A. in Writing and Applied Arts. Green Bay is quickly becoming a literary and community arts advocacy destination, with the third year of **UntitledTown Book and Author Festival** poised to once again draw thousands to its 150+ events. Just 40 minutes north, **Write On, Door County** runs year-round writing programs for all ages; to the east, and near our new branch campus in Manitowoc, are the classes, expertise, and

machinery of the **Hamilton Woodtype Museum**. Already, our undergraduates have completed internships for these nonprofits.

Projected Time to Degree

The fastest possible route through this degree is 2.5 years.

Program Review Process and Institutional Review

The UW-Green Bay Academic Affairs Council (AAC) is charged with oversight of all undergraduate programs, including review and approval of all new programs, and all undergraduate credit courses. The AAC will formally review the B.F.A. program on a seven-year cycle. In addition, the B.F.A. in Writing and Applied Arts program will be formally reviewed on a five-year cycle, by the department, and the Dean of the College of Arts, Humanities, and Social Sciences.

Accreditation

The B.F.A. in Writing and Applied Arts will be UWGB's first B.F.A. degree. As such, it will require approval by the Higher Learning Commission.

JUSTIFICATION

Rationale and Relation to Mission

High schools across the state offer creative writing clubs and courses; novel series like *Game of Thrones*, *Harry Potter*, and *The Hunger Games* spend decades on bestsellers lists; markets are exploding for screenplays, game narratives, comic books, graphic memoirs, historical fiction, fantasy series, and young adult fiction. Demand for creative writing instruction is growing, spurring development of UW-Green Bay's curriculum and spawning course waitlists. However, most undergraduate novelists or poets do not march from the commencement stage straight to a multi-book publishing contract. According to studies, even writers with graduate degrees take an average of ten years to publish their first book. Consequently, our graduates struggle to translate their love of writing, and the skills gleaned from our classes, into professional experiences employers (and parents) recognize. To address this "articulation gap," the B.F.A. in Writing and Applied Arts at UWGB will offer not one but three unique paths to **writing-centered careers** on the national, regional, and state level.

As an access-driven comprehensive university, the University of Wisconsin-Green Bay provides an interdisciplinary, problem-focused education that prepares students to address complex issues in a multicultural and evolving world. As Chancellor Miller outlines in his "Urban-Serving Strategic Vision" Statement, UW-Green Bay seeks to connect to "community partners in innovative programs of development, education, and sustainability" through innovative and "distinctive" programs.

As UWGB strategically looks forward to better serving the northeast region of Wisconsin (and beyond), we must create and strengthen connections between our students, businesses, and arts culture. For that reason, our proposed BFA program eschews traditional writing program models focused solely on craft, in isolation from the greater community, existing only within the pages of a book or a college classroom. To this end, our B.F.A. in Writing and Applied Arts pairs craft-focused instruction with community-facing applied learning, offering, wherever possible, arts-

and creativity-based intervention to help achieve meaningful, lasting impacts for the region. Accordingly, our proposed BFA program will help our university to position itself as an effective leader in the UW-System—both as a destination and a career path for writers seeking craft, culture, and community through partnerships with local schools, NWTC, nonprofits, businesses, and populations in need.

Institutional Program Array

UW-Green Bay currently offers an English major with an emphasis in Creative Writing. This emphasis follows Association for Writers and Writing Program (AWP) guidelines: courses are tiered (featuring Introductory, Intermediate, and Advanced levels), varied in subject (Novel Writing, Novel Revision, Creative Nonfiction, Short Fiction, Flash Fiction, Poetry, Topics in Creative Writing), and consistent with high-impact workshop practices. Students in the emphasis also enroll in an array of literature courses; and they take a course devoted to publication of an internationally-distributed journal, which offers students professionalization in editing, management, outreach, layout, copyediting, and aesthetic judgment. The B.F.A. in Writing and Applied Arts will build on this foundation by **balancing artistic craft with practical application through community-facing projects**. Existing curriculum guides students through the collection of oral histories from the community and encoding digital editions of texts for archival research and public consumption. New curriculum will expand our students' expertise into areas of publication history, print and digital production, copyediting, writing for entertainment, funding for small projects, and community storytelling.

Resources: Faculty. **No additional resources will be required to mount this program.** The UWGB English department consists of seven tenure-track faculty members; of these, three possess MFA degrees in the fields of dramaturgy, fiction writing, and poetry. All English faculty members have PhDs; of these, two have doctorates in programs offering creative dissertations; several have published award-winning creative works. Six are scholars of the history of the book, the history of the English language, rhetoric and writing, and/or Digital Humanities; most have been editors of publications; all teach in more than one discipline. Additionally, this interdisciplinary program will benefit from courses taught by faculty in Arts Management, Communications, Design Arts, Printmaking, and Humanities programs— as well as from faculty seeking to build writing emphases and publications in the Sciences. The UW-Colleges/UWGB merger (**Project Coastal**) adds resources to the proposed B.F.A., and incoming faculty are eager to teach scriptwriting, romance writing, print-making, and community engagement. The merger, and the additional resources it brings, has **actually accelerated the program's timeline** and eliminated an immediate need for new FTE positions.

Resources: The UWGB Teaching Press. In 2016, the College of Arts, Humanities, and Social Sciences funded the development of a student-run UWGB Teaching Press to enhance enrollment and retention in multiple disciplines. This **in-house press is a distinctive resource** as well, enabling UWGB students to utilize technologies both ancient and emergent: with its current technology book binding, trimming, printing—and the use of a historic letterpress—UWGB will host **one of the only undergraduate-run bookmaking labs in the United States**. In partnership with county libraries, health care providers, educators, and statewide community arts groups, the Teaching Press and the B.F.A. in Writing and Applied Arts will link our most creative

communicators to the untold stories, research areas, local history, and career opportunities in Northeastern Wisconsin.

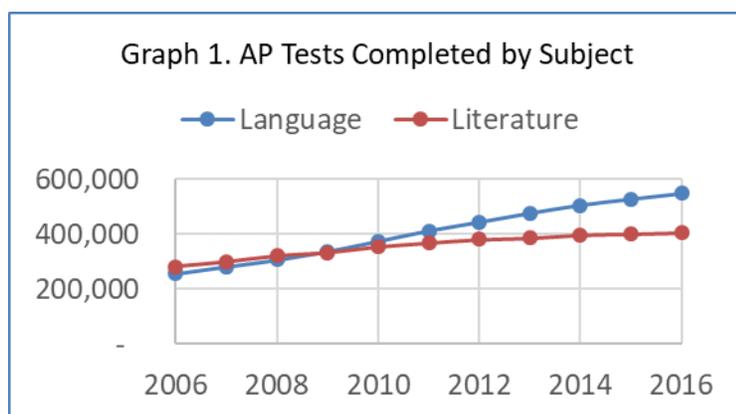
Other Programs in the University of Wisconsin System

As a degree, a “B.F.A.” is usually reserved for the Fine Arts (e.g. Textiles, Ceramics), wherein students focus on artistic craft in classes and in studio. Writing degrees that focus on craft and technique and “studio” production are generally found at the graduate level (i.e. the M.F.A.). The B.F.A in Writing is a rare degree: only 42 colleges in the U.S. offer a program, and only one program (Lakeland College) exists in Wisconsin. **No college in the UW-System offers a B.F.A. in Writing.**

The existing B.F.A. in Writing programs in the U.S. are, in keeping with their studio-origins, built almost exclusively from courses in English: literature, literary theory, and creative writing. Most include thesis hours for the completion of a publishable product. A few require credits in a fine or performing arts area. **Fewer still offer curriculum linked to an on-site, undergraduate-run, independent press.** Likewise, UWGB’s B.F.A. in Writing and Applied Arts will require a final, lengthy writing project and promote hands-on publication experience with both UWGB’s new Teaching Press and the student-run, internationally-distributed arts journal, *Sheepshead Review*. Yet even among these programs, UWGB’s B.F.A. in Writing and Applied Arts will be **unique, for two reasons.** First, it will be truly **interdisciplinary**, encouraging students to actively utilize skills from the fields of English, Design Arts, Communications, Humanities, Arts Management, Business, and/or Theater. Second, it will be the only program that is **explicitly outward-facing**, requiring sustained student engagement with communities in Northeastern Wisconsin—and with writers and writing professionals across the world.

Need as Suggested by Current Student Demand

The B.F.A. in Writing and Applied Arts addresses current—and growing— incoming student demands for college creative writing, specifically crafting original works, and for community service and outreach.

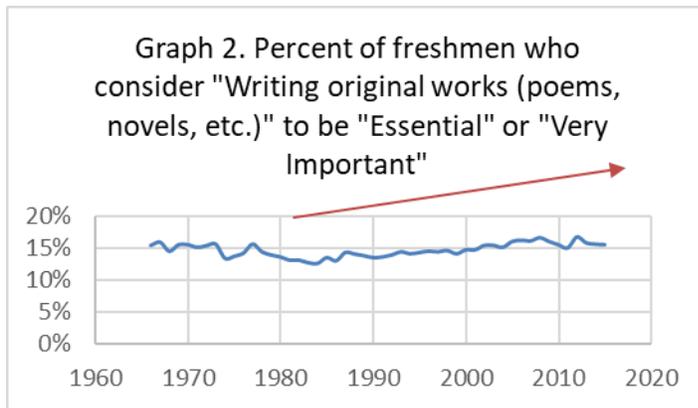


First, statistics show that within the world of English curriculum, **interest among U.S. high school students in writing has been growing much more rapidly than interest in literature.** In 2016, the most common AP course for students to complete in the United States was English Language and Composition (550,000 student or 12% of all AP tests), followed by U.S. History (490,000, 10%) and then English Literature/Composition (405,000,

9%). The total number of AP tests taken has grown an average of 8% per year since 2007. The growth rate for the English Language/Composition area has grown by an average rate of 9% per

year, each year, while the growth rate for the Literature AP test has averaged only 4% per year (see graph 1).¹

Second, potential and current students are interested in **writing original artistic works**. Over the past 50 years, the Higher Education Research Institute has conducted a national survey of new



freshmen and that survey has regularly asked students to indicate the importance to them of “Writing original works (poems, novels, etc.)”. Since the mid-1980s, the number has risen steadily a rate of 0.1% per year (R-Square = 0.78) (Graph 2). To put the 2015 interest rate of 15.5% into context, that same year 15.8% of students indicated it was “Essential” or “Very Important” to become

“accomplished in one of the performing arts” and 15.4% gave those ratings to “Creating artistic work”.²

Third, high school and first-year college students show significant interest two key aspects of the proposed B.F.A. in Writing and Applied Arts: **writing in college, and participating in community service and engagement**. In a March 2017 survey completed by 5888 ACT test-takers whose results were sent to UWGB, students were asked about their participation during high school for a range of activities, and about their plans to participate in these activities when they attend college. The percent of students planning to be involved in writing-based activities in college is slightly higher than for instrumental music, vocal music and drama. In addition, the table below shows that almost half of all ACT test takers plan to remain engaged with service activities at college³.

	Writing*		Instrumental Music		Vocal Music		Drama		Community Service		Athletics	
Total students rating this activity	4683		4689		4686		4678		4689		4694	
Did the activity in high school and plan to do it in college	233	5%	575	12%	526	11%	480	10%	1395	30%	1565	33%
Did not do the activity in HS but plan to do it in college	615	13%	216	5%	206	4%	254	5%	817	17%	323	7%
<i>Sub total for planned involvement during college</i>		18%		17%		16%		16%		47%		40%
Did the activity in HS but do not plan to do it in college	292	6%	751	16%	492	10%	302	6%	786	17%	929	20%
Never had an interest in this activity	3543	76%	3147	67%	3462	74%	3642	78%	1691	36%	1877	40%

*The survey wording asks for involvement or interest in "Publications (newspaper, yearbook, literary magazine)"

Finally, the trend within UWGB’s current English major illustrates the increase in **student interest in writing and the stagnation of interest in the other two emphases, for English Education and Literature**. Although the slope of the line through the graduation trend for the Writing emphasis has only increased from around 5 to around 15 students per year, this increase has been accomplished without providing students with an actual full major in writing. Without

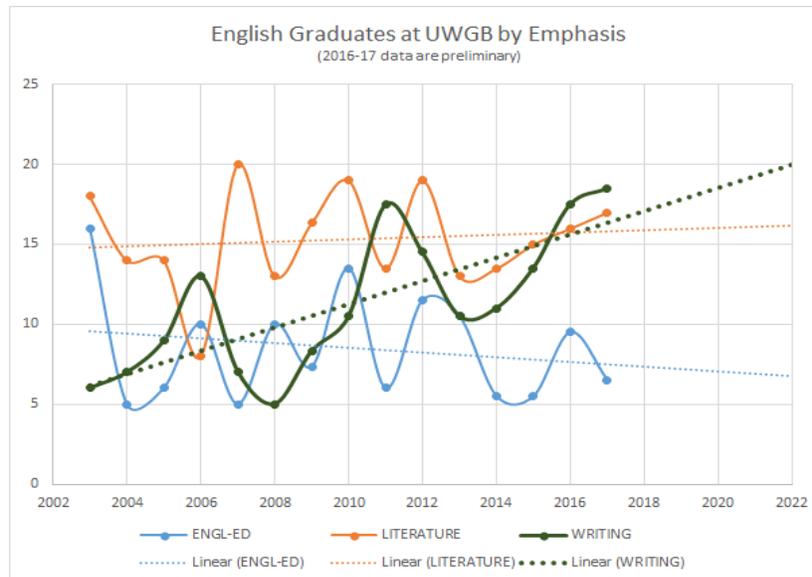
1 Source: The College Board, AP Program Participation and Performance Data, March 2017

2 Source: The Higher Education Research Institute, 2016 Freshman Survey, March 2017

3 Data compiled by Debbie Furlong, Director of Institutional Research, UW-Green Bay, March 26, 2017

making any changes, these trends indicate the overall size of the English program will continue to graduate around 40 to 45 students per year, with the decline in graduates in the Education track being offset by shifts into the Writing track.⁴

Building a complete major in writing should accelerate the trend line associated with the current writing emphasis. Even a modest increase in the slope of the writing trend projects that the major could graduate 30 students per year within a decade of its inception, **making it approximately the size of UW-Green Bay’s majors in Accounting, Social Work and Biology.** (See chart below)



Need as Suggested by Market Demand: National, Regional, and State

On a **national level**, according to the U.S. Bureau of Labor Statistics, employment of writers and authors is projected to grow 8% from 2016 to 2026, about as fast as the average for all occupations. Strong competition is expected for full-time jobs because many people are attracted to this occupation⁵. In fields related to creative writing, the Department of Labor projects 11% growth in jobs for technical writers and 10% growth in public relations and fundraising managers.

On the **regional and state levels**, a recent analysis of employment sources like CareerLocker and Worknet shows there are 676 employers in Wisconsin in the area of Publishing and Publications. While forecasts indicate that jobs related to journalism are in decline, jobs for writers and editors in Wisconsin for other sectors—like technical writing, education, digital editing, social media, library sciences, community relations, and social services—are expected to grow between 7% to 10%.⁶ In addition, the B.F.A. in Writing and Applied Arts will uniquely prepare students for the **numerous “hybrid” positions** requiring skill sets UWGB students are already merging through double majors: graphic arts/editing, or writer/editor. The B.F.A. in Writing and Applied Arts will

⁴ Data compiled by Debbie Furlong, Director of Institutional Research, UW-Green Bay, March 26, 2017

⁵ Source: The Bureau of Labor Statistics, U.S. Department of Labor, accessed March 27, 2018

⁶ Data from WORKNET: Occupations: Search Results: ‘Author/Writer’ “Public Relations Skills,” “Copywriter Skills,” “Desktop Publishers”; CAREERLOCKER “Technical Writers—Expected Employment, 2022”; Brown County Workforce Economic Profile 2015, State of Wisconsin Department of Workforce Development. Accessed February 5, 2017.

create a coherent program of craft-focused, community-facing, adaptable skills, speeding time to degree completion and increasing the experience—and therefore the immediate earning power—of graduates.

Two other recent trends indicate the skills students develop in the B.F.A. in Writing and Applied Arts will meet employer needs both directly and indirectly. First, the industry for making, publishing, editing, and producing **books**—especially printed books— is strong and improving: book sales are up for the third year in a row, according to the Association of American Publishers, particularly for the genres undergraduate creative writers most enjoy writing: Young Adult, Middle Grade, and Adult Fiction. In addition, revenue was up for paperbacks in 2016 to \$5.57 billion from \$5.29 billion in 2015—the most popular format for Adult non-fiction book readers.⁷ Second, and indirectly, students of the B.F.A. in Writing and Applied Arts program will develop skills in communications, audience-awareness, listening, empathy, communicating complex ideas, and critical thinking—**skills ranked among seven top characteristics of success at Google.**⁸ Furthermore, a recent survey of 260 employers by the nonprofit National Association of Colleges and Employers, which includes both small firms and behemoths like Chevron and IBM, ranks **communication skills** in the top three most-sought after qualities by job recruiters, who “prize both an ability to communicate with one’s workers and an aptitude for conveying the company’s product and mission outside the organization.”⁹

Emerging Knowledge and Advancing New Directions

The implementation of the B.F.A. in Writing and Applied Arts benefits from **excellent timing**, as emerging knowledge of storytelling production, and markets for writing in numerous genres—especially the entertainment, industry— have exploded in recent years. Multiple platforms now exist for listening to well-crafted stories, especially in **audiobooks** (a market with 24.7% growth since 2015), where both unit sales and revenue have more than doubled since 2012, growing from \$299 million to \$643 million in 2016.¹⁰ Beyond this, audio storytelling in the form of **podcasting** has expanded its market exponentially, as industry watchers report an 88% increase in those who listen to podcasts at least once a week, a 33 percent increase in those who report ever having listened to podcasts and a 25 percent increase in awareness of the term “podcasting” since 2014. In fact, the online magazine Slate now realizes 25 percent of its revenue from its suite of two dozen podcasts, up from 0 percent in 2014.¹¹

The future is equally exciting in the area of **comic book and graphic novel writing and publication.** In 2016, total comics and graphic novel sales to consumers in the U.S. and Canada reached \$1.085 billion in 2016, a \$55 million increase over sales in 2012—due in part to increased variety of content by new audiences for comics, including kids and women. In 2018, “Black Panther”—a movie written by screenwriters from comic books written by well-known literary writers as well as comic industry mainstays — is the highest-grossing superhero film of

7 Source: “Book Publishing Annual StatShot,” American Association of Publishers, August 1, 2017

8 Source: Valerie Strauss, “The Surprising Thing Google Learned about Its Employees—and What it Means for Today’s Students.” *The Washington Post*, February 20, 2017

9 Source: Valerie Strauss, “The Surprising Thing Google Learned about Its Employees—and What it Means for Today’s Students.” *The Washington Post*, February 20, 2017

10 Source: “Book Publishing Annual StatShot,” American Association of Publishers, August 1, 2017

11 Source: Eric Zorn, “Listen Up—Again! The Podcast Boom is Just Getting Started!” *Chicago Tribune*, February 16, 2018

all time in North America, and the lucrative relaunch of the Star Wars line in 2015 and DC's 2016 "Rebirth" event further strengthened comic sales.¹²

Finally, two recent business models have increased the need for creative writers, the demand for business-savvy publishers, and the appetites of consumers: **streaming television services like Amazon and Netflix; and crowdfunding resources like Kickstarter**. As the creators of films, series, television shows, documentaries— for all audiences and ages— writers are driving profits skyward for entertainment industries. With global online distributors like Netflix, and now Amazon, the market for content created by writers is truly the entire world.¹³ Creating content is therefore becoming highly competitive, as executive Mark Gordon puts it: "Hit shows are driven by **great writing** and stars, and for broadcast TV, it's more difficult to secure the best writers and top-tier actors."¹⁴ However, for those writers, editors, community arts advocates, and publishers wishing to fund their own projects, there are now, more than ever, various **independent means to success**. For example, Chicagoan David Dewane used Kickstarter to found Mouse Books, printing 48-page themed books the size of a smartphone¹⁵; while numerous independent comic book publishers, aspiring to diversify the market, have been funded through Kickstarter¹⁶.

Faculty Senate Old Business 4a 10/10/2018

12 Source: John Jackson Miller, "Comic and Graphic Novel Sales up 5% in 2016," *Comichron*. Accessed March 28, 2018

13 Source: Writer's Guild of America East, "State of the Industry 2017: Unprecedented Prosperity," accessed March 28, 2018

14 John Erlichman, "Forget the Ratings: Television is a Growth Business with Record Profits," *Forbes*, January 17, 2017

15 Cheryl V. Jackson, "Pocket-sized Dostoyevsky? Chicago's latest Kickstarter hit offers classic lit to go," *Chicago Tribune*, July 7, 2017

16 Abraham Reisman, "Pushing Diversity Is a Tough Business for Four Indie-Comics Publishers," *Vulture*, January 11, 2018

Draft Select Mission (Revised as of 3 October 2018)

The University of Wisconsin-Green Bay is a multi-campus comprehensive university offering exemplary undergraduate, masters and select doctoral programs and operating with a commitment to excellence in teaching, scholarship and research. The University is committed to problem-focused educational experiences that promote critical thinking and student success.

The culture and vision of the University reflects a deep commitment to diversity, inclusion, social justice, civic engagement, and educational opportunity at all levels. Our core values embrace community-based partnerships, collaborative faculty scholarship and innovation.

Our commitment to a university that promotes access, career success, economic development, environmental sustainability, cultural enrichment, cross-discipline collaboration, and entrepreneurship is demonstrated through a wide array of relevant programs and certifications offered in four colleges: College of Arts, Humanities and Social Sciences; College of Science, Engineering and Technology (including the Richard Resch School of Engineering); College of Health, Education and Social Welfare; and the Austin E. Cofrin School of Business, leading to a range of degrees, including AAS, BA, BAS, BM, BS, BSW, BBA, MS, MSW, MSN, and Ed.D.

Faculty Senate Old Business 4b 10/10/2018

**REQUEST FOR AUTHORIZATION TO IMPLEMENT A BACHELOR OF SCIENCE
DEGREE IN WATER SCIENCE^[1]_{SEP}**

**AT UW-GREEN BAY
^[1]_{SEP} PREPARED BY UW-GREEN BAY**

ABSTRACT

The University of Wisconsin-Green Bay proposes to establish a Bachelor of Science in Water Science (B.S. in Water Science). The development of this program responds to a number of local, national, and global needs in water science. Establishing the program at UW-Green Bay will provide students with an interdisciplinary curriculum focused on all aspects of water. With its four coastal campus locations, UW-Green Bay is positioned in a unique geographic region of Wisconsin that allows for high-impact teaching opportunities and research opportunities on the greatest diversity of surface water and groundwater settings of any UW institution. In addition, graduates will well-equipped to enter graduate school or to start a water science career across an array of industry, governmental, and academic disciplines. We have designed the Water Science major at UW-Green Bay to leverage and compliment the UW System-wide “Freshwater University” initiative being led by UW-Milwaukee.

The program will be comprised of 71 credits, which will include 33 credits of supporting courses, 25 credits of upper level core courses, and 13 credits of upper level electives. Students would need a total of 120 credits to graduate, along with the existing general education requirements in effect at UW-Green Bay. The curriculum will be designated as an interdisciplinary major at UW-Green Bay.

PROGRAM IDENTIFICATION

Institution Name

University of Wisconsin-Green Bay

Title of Proposed Program

Water Science

Degree/Major Designations

Bachelor of Science - Major

Mode of Delivery

Single institution, residential, primarily face-to-face instruction. However, there is intent to allow future collaboration with “Freshwater University” being developed by UW-Milwaukee and other UW campuses. This could include a selection of online courses, field immersion experiences, or short courses that could substitute for certain core or upper level elective courses.

Projected Enrollments and Graduates by Year Five

We used the draft proposal “Freshwater University: University of Wisconsin System Discussion Draft (3-20-2018)” prepared by the UW-Milwaukee School of Freshwater Sciences as

the template for enrollment and attrition projections. UW-Green Bay would serve as one of the 4-7 campuses that offer a bachelor’s degree in water science.

Table 1 represents enrollment and graduation projections for students entering the program over the next five years. The enrollment projections use the UWGB year-to-year retention rate model calculated by Institutional Research at UW-Green Bay. They are nearly identical to the 78% average retention rate model used by UW-Milwaukee in their Freshwater University proposal. The model used assumes a 75% retention rate in year 1, followed by 81%, 91%, and 95% retention rates for an overall retention rate of 53% of entering freshman reaching graduation. By the end of year five, it is expected 83 students will have enrolled in the program and 20 students will have graduated from the program. It is expected that some students might graduate in year 3 of the program due to new transfer students or those who might switch from present majors at UW-Green Bay, but this pertains only to the first year.

Table 1: Five-Year Degree Program Enrollment Projections

Students/Year	Year 1	Year 2	Year 3	Year 4	Year 5
New Students	10	15	18	20	20
Continuing Students	0	8	17	29	34
Total Enrollment	10	23	35	49	54
Graduating Students	0	0	3	5	12

Tuition Structure

For students enrolled in the B.S. in Water Science program, standard undergraduate tuition fee and rates will apply. For the current academic year at the main UW-Green Bay campus, the residential tuition and segregated fees total \$3,939 per semester for a full-time student who is enrolled in 12-18 credits per term. Of this amount, \$790 is attributable to segregated fees and \$3,149 is attributable to tuition. For students enrolled part-time in the program, the residential cost of tuition and segregated fees is \$328.26 per credit.

Differential tuition will not be charged. Course fees may apply to elective field courses and online courses. There are no planned tuition increases beyond those that might otherwise apply to all other UW-Green Bay programs. Students will need to cover textbooks for most courses. In addition, field appropriate clothing and supplies (e.g., rain gear, boots, sunscreen) may be required for certain elective courses.

Department or Functional Equivalent

Department of Natural & Applied Sciences

College, School, or Functional Equivalent

College Science, Engineering, and Technology

Proposed Date of Implementation

Fall 2019. Implementation would begin in the semester following approval, with appearance in the undergraduate catalog likely to occur in Fall 2019.

DESCRIPTION OF PROGRAM

Overview of the Program

The UW-Green Bay Water Science program will be an integrated program designed to provide students with the tools necessary to solve the water related challenges of today and tomorrow. The intended program duration will be 4 years. The curriculum will be interdisciplinary, with a core set of courses drawn from geoscience, chemistry, environmental science, biology, physics, math and statistics, and public and environmental affairs. In addition, a diverse set of elective courses will allow students to focus on subdisciplines in water science that can meet their career needs and interests. The anticipated comprehensive major (71 credits) will have a principal focus on water's role in natural processes in Earth's systems. These skills include a solid understanding of the chemistry, surface water hydrology, groundwater, and biology of freshwater systems. UW-Green Bay Water Science majors will have opportunities to work as research assistants on faculty projects, develop internships, or to conduct their own independent projects. UW-Green Bay faculty members are very active in research on water and wastewater treatment, runoff pollution, stream hydrology, groundwater quality, limnology, and aquatic ecology.

Student Learning Outcomes and Program Objectives

1. Students will demonstrate knowledge of the role water plays in the lithosphere, hydrosphere, cryosphere, atmosphere, and biosphere, with emphasis on interactions between these reservoirs.
2. Students will apply the scientific method to investigations of hydrologic processes, Earth systems, and interactions among the various physical and biological realms utilizing standard scientific field and laboratory methods.
3. Students will demonstrate an understanding of the hydrology of streams and lake systems and the role water has in landscape-forming processes that act on the Earth's surface.
4. Students will demonstrate an understanding of the processes of and importance of groundwater flow and aquifer systems.
5. Students will demonstrate an understanding of chemical interactions that occur in various hydrologic settings and their importance to water resources, geological and biological systems, and water/wastewater treatment.
6. Students will demonstrate an understanding of the role water plays in atmospheric systems and the climate system.
7. Students will demonstrate an understanding of the interactions between water systems and ecosystems.
8. Students will demonstrate an understanding of the challenge of maintaining surface and ground water quality.
9. Students will apply their knowledge base and research skills to current issues pertaining to water resources, management, and remediation, with emphasis on related economic, social, and public policy dimensions.
10. Students will analyze, interpret, and report on laboratory and field findings using appropriate statistical techniques and computer applications.

In addition to the Water Science learning outcomes, the general education program at UW-Green Bay enables students to strengthen academic skills, broaden knowledge, reflect on personal values, and integrate concepts and ideas across a variety of subject areas. Students take courses from several broad domains: biological sciences, natural sciences, ethnic studies perspective, fine arts, global culture, humanities, sustainability perspective, and social sciences. In addition, students are required to take a first-year seminar course and demonstrate quantitative literacy.

Program Requirements and Curriculum

There are no specific admission requirements, test scores, or prerequisites required for entry to the program, although competency of Math 104, 202 or 203 must be demonstrated before graduation.

Table 2 illustrates the program curriculum for the proposed program. The curriculum has the campus-wide requirement of a total of at least 120 credits. A total of 71 credits are required in the major program, which includes 33 credits at the supporting level (11 courses), 25 credits in the upper level core (8 courses), and 13 credits of upper level electives (~4 courses). Two additional credits are required for a prerequisite GIS course. An additional 24 credits would be required in the General Education program that are not otherwise completed via supporting courses. In total, 96 credits are required between general education, required prerequisites, core major requirements, and major elective courses.

Table 2: Bachelor of Science in Water Science Program Curriculum

General education courses required for graduation (24 of 36 unique):

First Year Seminar	3 credits
Fine Arts	3 credits
Social Sciences	6 credits
Humanities	6 credits
Global Culture	3 credits
Ethnic Studies Perspective	3 credits
Biological Sciences*	3 credits
Natural Sciences*	3 credits
Sustainability Perspective*	3 credits
Quantitative Literacy*	3-7 credits

* Denotes courses that are also covered by program requirements. Duplicate credits not counted toward total.

Program Prerequisites or support courses (35 credits):

Water 201 – Intro to Water Science (new course)	3 credits
Biology 203 & 204 – Principles of Biology (w/lab)	4 credits
Geoscience 202 – Physical Geology	4 credits
Geoscience 222 – Ocean of Air	3 credits
Chem. 211 & 213 – Principles of Chemistry I (w/lab)	5 credits
Chem. 212 & 214 – Principles of Chemistry II (w/lab)	5 credits
Math 260 – Introduction to Statistics	4 credits
PUENAF 250 – Intro. to GIS (<i>prereq. for Env. Sci. 337</i>)	2 credits
Physics 103 or 201 – Concepts or Fund. of Physics	5 credits

In addition, competency of Math 104, 202, or 203 must be demonstrated.

Academic program or major course requirements (25 credits):

Env. Sci. 335 – Water & Waste Water Treatment	3 credits
Env. Sci. 330 – Hydrology	3 credits
Geoscience 432 – Hydrogeology (Gen Ed. Captstone)	3 credits
Env. Sci. 305 – Environmental Systems	4 credits
Env. Sci. 401 or 403 – Stream Ecology OR Limnology	4 credits
Env. Sci. 433 OR PUENAF 351 – Groundwater: Resources & Regulations OR Water Resources Policy & Management	3 credits
Env. Sci. 337 – Environmental GIS	2 credits
Water 3XX – Geochem. of Natural Waters (new course)	3 credits

Upper Level Elective Courses (Any 13 credits required):

Bio 341—Ichthyology	4 credits
Env. Sci. 325 – Regional Climatology	3 credits
Env. Sci. 323 – Pollution Prevention	3 credits
Econ 305 – Natural Resource Economics	3 credits
Env. Sci. 320 – The Soil Environment	4 credits
Env. Sci. 322 – Environmental Microbiology	4 credits
PUENAF 378 or 379 – Environmental Law OR Natural Resources Policy, Law, & Administration	3 credits
Env. Sci. 401 or 403 – Stream Ecology OR Limnology	4 credits
Env. Sci. 424 – Hazardous and Toxic Materials	3 credits
Env. Sci. 425 – Global Climate Change	3 credits
Env. Sci. 433 OR PUENAF 351 Groundwater: Resources & Regulations OR Water Resources Policy & Management	3 credits
Water 321 – Stable Isotopes in the Environment	1 credit
Water 491 – Senior Thesis/Research in Water Science	1-3 credits
Env. Sci. 492 – Practicum in Environmental Science	1-4 credits

Total Credits	97 credits
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The program prerequisites, core, and elective courses occur primarily in the Department of Natural and Applied Sciences, although alternative and elective courses in Public and Environmental Affairs and Economics are also available. Two new water science courses will be required in the program (Introduction to Water Science and Geochemistry of Natural Waters). These two additional courses will be covered by approximately 0.5 faculty FTE. Funding for this may come from new funding initiatives associated with Freshwater University or by faculty overloads. Alternatively, existing general education sustainability courses could be transitioned to Introduction to Water Science, while Environmental Engineering, Geoscience, or Chemistry faculty could teach the Geochemistry of Natural Waters course. An additional 1.0 FTE is budgeted for support courses in Chemistry, Biology, and other disciplines that will require additional sections when the Water Science major reaches the projected level of enrollment.

Depending upon the semester and course options, students will likely take courses from between 15 and 20 different faculty members while taking the supporting, core, and elective

portions of the Water Science major. Campus facilities and resources are well established in existing disciplinary and interdisciplinary programs in Biology, Chemistry, Environmental Science, Geoscience, and Physics.

Assessment of Outcomes and Objectives

The program will use several forms of assessment. Courses in the proposed major have individual course assessments such as exams, presentations, writing assignments, and other standard forms of assessment. In addition, written anonymous comments on student evaluations of instructor teaching performance can also be used to make program adjustments, where appropriate.

In addition, the Provost's Office at UW-Green Bay requires that programmatic assessments be done on student learning outcomes on a regular basis. Typically, two student learning outcomes are addressed specifically in appropriate courses each year. Results of these assessments are available online: <https://www.uwgb.edu/assessment/> The results of the assessment are used to inform curricular and programmatic decision-making.

Diversity

UW-Green Bay's Strategic Vision includes a commitment to a diverse university that reflects the community (see <http://www.uwgb.edu/graduate/university-mission/strategic-vision>). The development of the B.S. in Water Science was not linked with any specific plans or strategic initiatives at UW-Green Bay. However, the proposed curriculum is interdisciplinary in nature and would draw upon students and faculty from wide educational, socioeconomic, and ethnic backgrounds.

Collaborative Nature of the Program

In the response letters to our 2016 Notice of Intent, UW-Milwaukee requested a brief pause in our pursuance of a standalone major in Freshwater Science. During the course of 2017 and early 2018, UW-Milwaukee's School of Freshwater Science has proposed an exciting new initiative called "Freshwater University". During this time, staff from UW-Green Bay have participated in joint conferences with staff from UW-Milwaukee, including a meeting on the UW-Green Bay campus in June 2018.

Freshwater University (FWU) is a cohesive state-wide platform described as an integrated university within a university system that can leverage the strength, diversity, and collective resources of the entire University of Wisconsin System. It includes a vision establishing Wisconsin as an international leader in freshwater science, technology, entrepreneurship, and economic growth that, according to Val Klump (Dean of the School of Freshwater Sciences) has support from the community and legislators of Wisconsin. UW-Green Bay plans to be an integral part of FWU (a degree granting campus), and our proposed B.S. degree in Water Science positions us to be a foundational partner in this endeavor.

Students who would receive diploma recognition or certification may require that students acquire experiences at another UW campuses, including a semester immersion/certificate, experiential learning (field or short courses), or online experiences. In this regard, we hope that the opportunities for collaboration with several different FWU campuses will enrich the educational experience of all UW students, regardless of their home campus. Because FWU is not yet approved, we have not included this as part of our proposed curriculum at this time. Any necessary modifications will be made at a later date.

Projected Time to Degree

The program is full time and intended to be completed within four years. Part time students will take longer, particularly if students miss certain courses that are offered only on a once-every-other-year basis. In these cases, it is likely that part time students would need 6 years to complete the degree.

Program Review

UW-Green Bay performs regular program reviews of all academic programs on a seven-year cycle. The program reviews evaluate trends in enrollment and graduation rates, program effectiveness, and student learning outcome assessments. The approval chain includes the department, Dean of the College of Science, Engineering, and Technology, The Academic Affairs Council (AAC), and the Provost. The AAC forwards all recommendations and decisions to the Faculty Senate.

Accreditation

There are no particular accreditation requirements for a B.S. in Water Science. However, the Freshwater University proposal, led by UW-Milwaukee, would require that our curriculum align with an approved array of courses to allow students to earn the “Freshwater University” designation. The suggested curriculum presented above is consistent with the current draft proposal and would require minimal modification to align field immersion experiences, etc.

JUSTIFICATION

Rationale and Relation to Mission

UW-Green Bay’s mission is based on a commitment to provide a problem-focused educational experience in which students apply critical thinking skills to solve the world’s complex problems. Water Science (a.k.a. Freshwater Science) is the study of water and its interaction with solids, liquids, gases, and organisms in various Earth systems. Water is essential to life, and it plays a critical role in nearly every natural process in Earth’s lithosphere, atmosphere, hydrosphere, biosphere, and cryosphere.

There are two principal reasons for proposing the B.S. Degree in Water Science. First, water is likely going to be the single greatest resource challenge of the 21st century. The world faces significant challenges regarding water quantity, quality, and ecological function that are expected to worsen during the 21st century. It is rare to find a real-world system in which water does not play a significant role. The global need for water science professionals to solve critical water issues is accelerating and expected to continue indefinitely. Recent examples include the lead contamination crisis in Flint, Michigan, the ongoing arsenic exposure in Bangladesh, and the water crisis in Cape Town, South Africa.

Second, UW-Green Bay has had a long history of research and teaching related to the field of freshwater science and to related sustainability issues. Graduates in our existing programs have gone on to work in water related fields in industry and government positions. The continuing development of significant relationships between the UW-Green Bay Water Science program and community partners will put our students in a stronger position to fill the employment needs of our region and beyond.

We will be an integral partner in the proposed UW-System Freshwater University, an endeavor led by UW-Milwaukee to make Wisconsin a hub for freshwater science in the world. The new B.S. Degree in Water Science will allow UW-Green Bay the ability to attract more

students, not only from within Wisconsin, but also from elsewhere in the nation and globally.

The B.S. Degree in Water Science will contribute directly to the mission of the UW System by preparing our citizens to face the water-related challenges of the 21st century. The proposed major in Water Science has a strong fit with UW Green Bay's mission, strategic plan, and existing programs. The program will also closely match the university's Select Mission to provide an interdisciplinary, problem-focused educational experience. The proposed major will greatly expand opportunities for collaboration in our region by greater engagement with businesses, non-profits, and governmental agencies. It will prepare students for career opportunities in private industry, water utilities, geotechnical consulting, natural resource management, state and federal government agencies, or environmental policy organizations. For students interested in pursuing graduate work, the program will help to set a solid foundation for students interested in UW Milwaukee's School of Freshwater Science graduate program or other programs nationwide.

Support for the program has been expressed by leaders and members of academic, government, and private industry (see attached support letters). These include the Wisconsin Rural Water Association, Green Bay Water Utility, the Bellevue Water utility, Natural Resource Solutions, LLC, NEW Water, U.S. Fish & Wildlife Service, Clean Water Action Council.

Institutional Program Array

The B.S. in Water Science will be distinctly different from existing majors in Environmental Science, Environmental Engineering Technology, and Geoscience at UW Green Bay, the programs that have the most water-focused courses. Water Science will pair well with minors in many subfields, including biology, chemistry, geoscience, environmental policy, business, economics, etc. The program will also provide expanded opportunities for undergraduate research and internship experiences. The anticipated non-faculty resources needed for the overall program are limited and might be obtained through one-time funds and campus laboratory modernization funds.

Two new courses will be required as part of the Water Science curriculum that are not presently offered. One of these will be Introduction to Water Science, which is a 3-credit hour lecture course at the 200 level. This was added to the curriculum after the initial Notice of Intent following discussions with UW-Milwaukee regarding alignment with the proposed Freshwater University requirements. This course will likely be proposed as part of the Sustainability General Education requirements. A second new course in the Geochemistry of Natural Waters would be a 3-credit lecture course at the 300 level. This course was already targeted as a course to be added soon for the existing Environmental Engineering Technology major at UW-Green Bay. Neither course will require new resources beyond an annual commitment of 3 credit hours of faculty instruction.

Other Programs in the University of Wisconsin System

UW-Milwaukee and UW-Madison have graduate programs in Freshwater Science. Both universities were supportive of UW-Green Bay's proposal for a B.S. in Water Science (originally Freshwater Science), noting the potential for students to continue on for graduate degrees. Devarajan Venugopalan (Vice Provost, UW-Milwaukee) agreed in his response to the Notice of Intent that with regard to Freshwater Science, "an undergraduate degree and major (has been identified) as a void within the UW System and applauds UW-Green Bay for proposing the creation of such a degree." Their graduate program would be a perfect fit for graduates with a

B.S. in Water Science from UW-Green Bay. As such, both UW-Milwaukee and UW-Madison would be logical choices for collaboration, which is addressed in the section below.

Few institutions offer Bachelor level degrees directly in Water Science. However, there are some UW programs that are similar to the proposed B.S. degree in Water Science. In the letter from Steven H. Kolison, Jr., Ph.D. dated 23 December, 2016, one of the concerns was for potential impacts that a Freshwater Science degree program might have on programs or concentrations at UW-La Crosse, UW-Oshkosh, and UW-Stevens Point.

The concerns expressed by UW-La Crosse were from faculty in the Department of Biology. Specifically, they felt that the proposed program at UW-Green Bay might be redundant to UWL's well-established Biology Major: Aquatic Science Concentration. However, we do not believe this is the case. The confusion may have arisen due to the perceived meaning of "freshwater science" to biologists, as well as space limitations in the original Notice of Intent, which did not allow for a curriculum to be included. A simple comparison of the course curricula of the two programs shows that the proposed Water Science program at UW-Green Bay is considerably different than UWL's established program. In fact, UW-Green Bay's existing biology and environmental science majors would probably compete more closely with UWL's program than the proposed Water Science major. Avoidance of this confusion is one of the reasons why our proposed major is now "Water Science" instead of "Freshwater Science". Similar confusion appears to exist with UW-Oshkosh's Geology Major – Hydrogeology emphasis, which was identified in the Approval to Plan Letter. The identified major at UW-Oshkosh is a geology degree. The existing Geoscience major at UW-Green Bay, an environmentally oriented geoscience degree, already includes a thorough focus on hydrogeology and soil science. Hydrogeologists are typically certified by the State of Wisconsin as geologists, and students seeking such certification require training in geology. The proposed B.S. in Water Science would not compete with UW-Oshkosh's Hydrogeology emphasis because the Water Science curriculum would not yield students trained in geology.

One program identified as being similar to UW-Green Bay's proposed B.S. in Water Science is the UW-Stevens Point Fisheries and Water Resources major (Water Resources option). UW-Stevens Point expressed concern that a new program in this area would diminish enrollment in their program, and they questioned student demand. While we recognize that there will be some overlap to the two programs, there are many aspects of UW-Stevens Point's programs that we would not duplicate, such as the Center for Watershed Science and access to high-capacity well issues in the Central Sands region. The proposed Water Science program at UW-Green Bay will have unique resources and opportunities for students that are not readily available at UW-Stevens Point, and we feel that collaboration between campuses would provide a greater benefit to students at both campuses.

The biology, geology, and chemistry of surface water and groundwater bodies in northeastern Wisconsin are distinctly different in many ways from those in central Wisconsin. Close proximity to these areas provides the best and most diverse set of field education and research opportunities for students in Wisconsin. For example, UW-Green Bay's four campuses are uniquely set along the coastline of Lake Michigan. The Lower Green Bay and Fox River Area of Concern (AOC) provides students with first-hand opportunities to observe PCB remediation, habitat restoration, etc. that is not available elsewhere in the state. Green Bay is the world's largest freshwater estuarine system, with a complex industrial history, aquatic ecology, and nutrient management problems. With regard to groundwater, and aquifer geology, the region near Green Bay provides students with an incredibly diverse array of problems compared to most other

parts of the state. For example, the Kewaunee County water crisis, which has received national attention, is an active area of research in the karsted Silurian bedrock of northeastern Wisconsin. Other aquifers in the region have significant water quality concerns such as arsenic, strontium, radium, boron, fluoride, and others that relate directly to the bedrock geology. Close access to inland lakes in glaciated regions is also available in northeastern Wisconsin and upper Michigan. Nutrient management challenges from one of the state's most highly concentrated dairy farming areas, as well as storm water problems in urbanized regions of Green Bay and Appleton allow excellent learning and research opportunities for students interested in water.

We believe that the geographically unique opportunities available at UW-Green Bay, coupled with student interest and our strong desire to be a cornerstone partner in the proposed UW System Freshwater University (see below) make UW-Green Bay's proposal for a B.S. Degree in Water Science a logical choice to support.

Need as Suggested by Current Student Demand

A survey was circulated to 1074 students at the UW-Green Bay main campus in late August 2018, of which 135 had responded within two weeks. The students had declared majors in biology, human biology, chemistry, environmental policy & planning, engineering or engineering technology, environmental science, geoscience, and the environmental science & policy graduate program. The results of the survey clearly show that there is strong student interest among existing UW-Green Bay students. Ninety-six percent of the respondents ranked the importance of "water related issues locally, nationally, and globally" as very or extremely important. Over 68% of respondents stated that they were highly likely or somewhat likely to consider majoring in Water Science at UW-Green Bay (26.6% were highly likely). Over 90% of the respondents stated "definitely yes" or "probably yes" when asked "Do you think UW-Green Bay should offer a major in Water Science?" (63.7% definitely yes). Similarly, 80.7% of the respondents stated "definitely yes" or "probably yes" when asked "Do you think prospective college students would be attracted to UW-Green Bay if it offered a Water Science degree?"

While it is likely that there may be attrition from other programs, we believe that the B.S. in Water Science has the opportunity to bring in new students to UW-Green Bay, or to retain students from our three satellite campuses (Manitowoc, Sheboygan, and Marinette) that might otherwise transfer away from UW-Green Bay.

According to the U.S. Bureau of Labor and Statistics, the job outlook for water science professionals across the nation is anticipated to grow by 10% or more. It is difficult to find precise statistics for Water Science as a category because water professionals are employed in many industries. Table 2 shows projected 10-year employment changes in water-related sectors.

Table 2: Projected national increases in Water Science related fields (2016–2026. Industry titles shown are those in which water science professionals are most likely to be employed.

U.S. Bureau of Labor and Statistics Industry Title	U.S. BLS Industry Code	Ten-year growth rate (%) from 2016 to 2026
Hydrologists, total employment	19-2043 TE1000	9.9
Environmental Scientists (entire field)	19-2041 TE1000	11.1
Env. Scientists and Specialists - Utilities: Water, Sewage, and other sys.	19-2041 221300	15.1
Env. Science & Protection Technicians, mining quarrying and gas extraction	19-4091 210000	18.9
Environmental Science and Protection Management, scientific, and technical consulting services*	19-4091 541600	25.4
Water Wastewater Treatment Plant System Operators: Professional, scientific and technical services (Management, scientific and technical consulting services section)	51-8031 541600	12.8
Environmental Engineers	17-2081 TE1000	8.3

**According to Brookings.edu, this category includes services such as Water Quality Inspection*

According to the Wisconsin Department of Workforce Development’s 2026 employment growth projections, demand for hydrologists and environmental science professionals with baccalaureate degrees has improved significantly over the 2022 projections to 6.98% and 11.76%, respectively.

Other substantive information exists that supports an increasing demand for water science professionals. According to the American Water Works Association (2017 State of the Water Industry Report), workforce issues continue to be a concern in the water industry. They specifically cite “aging workforce/anticipated retirements” and “certification and training” as important issues facing the industry. In a recent survey, only 1% of the respondents indicated that “the water industry was fully prepared to cope with any expected retirements in the next five years.” According to the Task force on Workforce Sustainability Final Report, published by the Water Environment Federation, it is projected that during the next 10 years more than 30% of water and wastewater utility workers will retire.

On January 26, 2018, the United States Government Accountability Office published a report that analyzed workforce needs in the drinking water and wastewater sectors. Their report provides recommendations to U.S. EPA and the U.S. Congress regarding actions the federal government could take to avoid these anticipated workforce shortages.

During 2017, UW-Milwaukee did an Exploratory Study of Water-related Workforce Needs for Wisconsin. The survey, which focused on water professionals in southeastern Wisconsin, indicated that over 70% of the 114 respondents anticipated that their organization

would be hiring water-related professionals in the next three years.

Letters of support from water utilities, consultants, and others speak to the particular need for water-related professionals in northeastern Wisconsin due to demographics and retirements. For example, Nancy Quirk, General Manager of the Green Bay Water Utility, indicates that the anticipated loss of current utility employees will be “30 to 50 percent in the next 10 years.” Additional letters of support from community members are attached to this document.

Emerging Knowledge and Advancing New Directions

Because of its interdisciplinary nature, Water Science has not traditionally been one of the foundation sciences (e.g., Chemistry, Physics, Biology, Geology). Yet, water is a major component in the employment duties of many scientific professionals. It is obvious that water and wastewater utilities deal with water. However, most environmental consultants also work on water-related issues, such as water and soil pollution, wetlands restoration, drinking water protection, nutrient management, storm water management, etc.

New programs in Water Science are beginning to appear across the nation in response to this need for water trained professionals. For example, Virginia Tech began a new B.S. program in Water: Resources, Policy, and Management in 2015, which has seen very strong enrollment.

References

American Water Works Association (AWWA). 2017 State of the Water Industry Report. Retrieved from

<https://www.awwa.org/Portals/0/files/resources/water%20utility%20management/sotwi/AWWA2017SOTWI.pdf>

Brookings. 2018. Renewing the water workforce: Improving water infrastructure and creating a pipeline to opportunity. Joseph Kane and Adie Tomer. www.brookings.edu/research/water-workforce/

FRESHWATER UNIVERSITY: University of Wisconsin System Discussion Draft, Prepared by UW-Milwaukee School of Freshwater Sciences, 20 March, 2018, 29 pages.

Office of Economic Advisors, Wisconsin Department of Workforce Development, July 2018. Wisconsin Long Term Occupation Employment Projections, 2016-2026.

<https://worknet.wisconsin.gov/worknet/downloads.aspx?menuselection=da&pgm=occprj>

United States Government Accountability Office, Water and Wastewater Workforce. GAO-18-102. January 2018.

**REQUEST FOR AUTHORIZATION TO IMPLEMENT A
BACHELOR OF SCIENCE
IN WATER SCIENCE
AT UNIVERSITY OF WISCONSIN-GREEN BAY
PREPARED BY UW-GREEN BAY**

COST AND REVENUE PROJECTIONS NARRATIVE

Introduction

The Water Science program includes two new courses and relies heavily on existing courses offered at UW-Green Bay. For this reason, only limited new resources are needed to staff the additional sections of courses. At this time, no immediate plans for distance education, differential tuition, or collaborative program delivery are included in the budget. Future modifications might be proposed in the event that the UW-Milwaukee-led “Freshwater University” concept comes to fruition.

Section I – Enrollment

The enrollment projections in Section I use the UWGB year-to-year retention rate model calculated by Institutional Research at UW-Green Bay. They are nearly identical to the 78% average retention rate model used by UW-Milwaukee in their Freshwater University proposal. The model used assumes a 75% retention rate in year 1, followed by 81%, 91%, and 95% retention rates for an overall retention rate of 53% of entering freshman reaching graduation.

Overall New Student Headcount was estimated based on student interest surveys, course capacity estimates, and estimates made by UW-Milwaukee for “Freshwater University”. In Section 1, the FTE numbers shown indicate an estimated 80% full-time and 20% part-time student body.

Section II – Credit Hours

A standard of 120-credit hours is necessary for graduation with a Bachelor of Science degree at UW-Green Bay. Two new courses will be developed for the Water Science program, along with new sections of existing lower and upper level support and major program courses. Credit hours for the two new courses were calculated assuming that Intro to Water Science would be offered every semester by Year 2, and that Geochemistry of Natural Waters would be offered annually. Estimates of additional new sections not previously offered by the institution were made based on a full-time 9-month faculty load. Courses requiring new sections will likely include chemistry, physics, environmental systems, physical geology lab, biology lab, GIS, statistics, and water & wastewater treatment. Existing capacity in other core and upper level electives can likely absorb the predicted additional enrollment in most cases.

Section III – Faculty and Staff Appointments

The program requires the addition of 1.5 FTE of faculty in the sciences, phased in over 3 years as the program grows. This could potentially be accomplished through *ad hoc* lecturers, but the program will be best served by hiring tenure-track faculty for at least 1.0 FTE because the core introductory course and the upper level specialty courses necessitate expertise in the field of water science. The additional 0.5 FTE might be accomplished with tenure-track faculty, lecturer, or even two graduate teaching assistant positions (for chemistry, geoscience, or physics labs).

Section IV – Program Revenues

Total Tuition: We model an enrollment of 9 new FTE students in Water Science in Year 1, growing to 18 new FTE students each year by years 4 and 5. Based upon student surveys and UW-Milwaukee’s Freshwater University projections, this is likely an underestimate of actual interest. We also expect higher retention rates in the sciences, relative to UW-Green Bay’s overall statistics for year-to-year retention.

The main revenue source will be student tuition. All calculations are based on a full-time single semester tuition rate of \$3149.16 (UWGB Fall 2018 tuition rate), with a 2% increase in tuition and fees in years 3 and 5. This was matched by a 2% annual increase in faculty salaries beginning at the same time. To reach the 120-credit requirement for graduation, it was assumed that students would enroll in 15 credit hours per semester (on average), which is within the 12 to 18-credit plateau. New tuition revenue within the Water Science Program was calculated assuming that students would average approximately 20 of 30 credits per year in supporting courses, core major courses, or major electives to reach the approximately 80 total credits students will likely take related to the major before graduation.

Because the overall investment in new faculty and expenses is limited, relative to many newly proposed majors, our projections predict a small net positive revenue would begin in Year 1, although Year 2 will see the first substantial net revenue. By years 4 and 5, net revenue for the program is modeled to be between \$100,000 and \$150,000 per year, based upon a total enrollment of 49 student FTE in the program. No new administrative costs are requested at this time because the chair of the Geoscience disciplinary unit will also chair Water Science.

The additional faculty FTE would hopefully be accomplished through General Program Revenue (102 funds).

Section V – Program Expenses

Salaries and Fringe: Salaries for the 1.5 FTE were estimated at \$60,000/year (9-month contract), plus a 45% fringe benefit rate. A 2% salary increase was budgeted in Year 3 and Year 5. Additional new expenses related to the Water Science program include increases in professional development, supplies and expenses, marketing, and equipment.

Facilities Costs and Accreditation costs are not anticipated at this time. *Professional Development and Supplies and Expenses:* Ongoing professional development for faculty/staff is critical in a water science program, and amounts are estimated at ~\$1000 per faculty/staff per year, including modest S&E. *Marketing:* We include \$2,000/year for print, radio, and digital marketing of the new program to build brand awareness of the UWGB Water Science program. *Equipment:* Funding for new equipment related to groundwater wells and geophysical logging equipment is budgeted for years 1 through 5. Installation of new wells would occur in years 1 and 2 to improve the limited existing well-field that exists on the UW-Green Bay campus, with the highest expenses in years 3 and 4 when geophysical logging equipment would be purchased. *Central Tax:* A 30% Central tax on total tuition is also budgeted in New Expenses.

Section VI – Net Revenue

The budget model shows significant positive net revenue beginning in Year 2, with substantial net revenue emerging in years 4 and 5. Remaining net revenue could be reinvested

into a number of programs in the College of Science, Engineering, and Technology at UW-Green Bay. Reinvestment might include purchasing analytical equipment, field sampling and measuring equipment, computer software, etc.

We believe the risk for net loss in this new program is limited. A loss would occur only if the actual enrollment falls significantly short of the predicted enrollment. In this case, the Water Science program could be adequately run with funding of the two newly proposed courses, while available capacity in existing courses could absorb a small number of new majors. Expenditures for new equipment could be curtailed, if necessary, without leading to actual negative net revenue for the program. Based on student and community support, along with the potential for the University of Wisconsin's "Freshwater University" concept, we believe there is current demand to meet or potentially exceed the modeled enrollment targets.

University of Wisconsin - Green Bay						
Cost and Revenue Projections For Bachelor of Science in Water Science						
	Items	Projections				
		2019	2020	2021	2022	2023
		Year 1	Year 2	Year 3	Year 4	Year 5
I	Enrollment (New Student) Headcount	10	15	18	20	20
	Enrollment (Continuing Student) Headcount	0	8	17	29	34
	Enrollment (New Student) FTE	9	13	16	18	18
	Enrollment (Continuing Student) FTE	0	8	15	26	31
II	New Course Credit Hours (2 new sections 3 credits per section)	6	3	0	0	0
	Additional New Credit Hours (new sections of existing courses)	3	12	8	0	0
	Total New Credit Hours	9	15	8	0	0
	Total Existing WS Program Credit Hours (not including Gen)	11	20	40	60	80
III	FTE of New Faculty/Instructional Staff	1	0	0.5	0	0
	FTE of Current Fac/IAS	0	1	1	1.5	1.5
	FTE of New Admin Staff	0	0	0	0	0
	FTE Current Admin Staff	0	0	0	0	0
IV	New Revenues					
	<i>From Tuition</i>	\$56,682	\$132,258	\$199,144	\$282,656	\$321,048
	<i>From WS Program Tuition (total prog. credit hours x FTE)</i>	\$37,788	\$88,172	\$130,159	\$184,741	\$205,735
	<i>From WS Program Tuition (new credit hours x FTE)</i>	\$17,005	\$66,129	\$52,063	\$0	\$0
	<i>From Segregated Fees</i>	\$14,220	\$33,180	\$49,960	\$69,520	\$78,968
	Total New Revenue	\$70,902	\$165,438	\$249,104	\$352,176	\$400,016
V	New Expenses					
	Salaries plus Fringes					
	<i>Faculty/Instructional Staff</i>	\$87,000	\$87,000	\$133,110	\$133,110	\$135,772
	<i>Other Staff</i>	\$0	\$0	\$0	\$0	\$0
	Other Expenses					
	<i>Facilities</i>	\$0	\$0	\$0	\$0	\$0
	<i>Equipment</i>	\$5,000	\$5,000	\$20,000	\$20,000	\$5,000
	<i>Marketing</i>	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
	<i>Professional Development & S&E</i>	\$2,500	\$2,600	\$2,700	\$2,800	\$2,900
	<i>Central tax (30% of total tuition)</i>	\$17,005	\$39,677	\$59,743	\$84,797	\$96,314
	Total Expenses	\$113,505	\$136,277	\$217,553	\$242,707	\$241,987
VI	Net Revenue	-\$42,603	\$29,161	\$31,550	\$109,469	\$158,030
Narrative: Explanation of the Numbers and Other Ongoing Commitments that will Benefit the Proposed Program						
See appended Budget Narrative.						
Provost's Signature:			Date:			

Faculty Senate New Business 5a 10/10/2018

Faculty Rep report to UWGB Senate- October 2018

The following report represents recent faculty governance communication, October Board of Regents meeting at UW Parkside, and the Program Monitoring Policy Taskforce meeting.

1. 10-1-18 Faculty were notified to verify their sick leave balances and notify HR if they noted a deduction of 44.8 hours on the October earnings statement. Faculty across UW System were impacted. It was found that anyone with missing leave reports (in 2017-18) had a sick leave deduction. The Faculty Reps will strategize system improvements to ensure better communication between HR and faculty/staff.

2. **Budget update- Capacity Building Initiatives presented by the following institution's Chancellors**
 - **UW-O, UW Platteville, and UW FV-**
 - Expands engineering technology & creates an integrated engineering collaboration. They mentioned developing articulation agreements in the SE region of the state to support institutions like Fox Conn etc.
 - Expanding teaching capacity in high need teacher education programs.
 - Increase percentage of diverse student teachers
 - Mentor program
 - Establish 1+3 teacher education partnerships with High schools (adding 10 in 2019-20 academic year)
 - **UW Stout** (Polytechnic with focus on collaboration)
 - Shared cluster of programs and industry connections
 - Shaping capacity building opportunities identified by employers.
 - Focus on computer science, cybersecurity networking and related areas.
 - **UW Milwaukee-** 6 initiatives supporting their Capacity building priorities
 - Enhance diversity
 - Freshwater university
 - Information technology- all industries have need to improve capacity/talent (\$665K)
 - Nursing- take partnership with UW Washington County to UW Waukesha County; partner with Carrol University who has an existing nursing program.
 - STEM- seeking \$1million to allow growth
 - Student advising
 - **UW Parkside**
 - Collaborative academic programs
 - Consortial program expansion- supply chain management and logistics, MS in Clinical mental health counseling,
 - Engineering & Nursing with UW Milwaukee
 - Online MBA with focus on data analytics
 - Increase # of annual graduates by 50% by 2025

- Have 53% first generation students, 36% Pell eligible, many work half time or more.
- Goal to become a Hispanic serving university
- Concern about trends for African American students
 - Strategies include increasing academic advisors, growing summer bridge programs, precollege program to serve regional youth, additional transfer advisors, bolster career services.
 - Higher education regional alliance in SE WI- improve educational attainment across the MKE area.
 - Of special note, Regent Klein noted the importance of childcare centers to underrepresented student success!

3. Program Monitoring Policy Taskforce

- a. The taskforce met to finalize the policy draft before it is posted for public comment.
- b. Changes to the policy include:
 - i. Non-admitting graduate programs are exempt from this policy (Doctoral institutions who offer an MS or MA for students who do not continue to the doctoral program)
 - ii. Collaborative programs will be identified and monitored as one program such that the cumulative number of graduates will be considered.
 - iii. Collaborative Language program (CLP)- Carleen is exploring the development of a CLP. As a collaborative, cumulative graduate numbers are considered as one program.
 - iv. Programs identified as low producing will develop a plan for revision (year 0), implement the changes in years 1-3, will be reviewed in year 4.
 1. Programs with major revisions (more than 50%) will be considered a new program and will initiate a new program review (5 years),
- c. An appeals committee (UW System, Provosts, and Faculty reps) will review appeals.
- d. **The revised policy draft should be posted for public comment by the end of the week of October 8th.** (comment period will go through Dec. 10th.)
 - i. Once the policy is up for public comment, I will notify the UWGB faculty.

The next Faculty Governance meeting is Nov. 9th.

Respectfully submitted,

Christine Vandenhouten,
UWGB Faculty Rep

**University Staff Committee Report for Faculty Senate
October 10, 2018**

- The Bylaws Restructuring Committee has made great strides in revamping the bylaws to include university staff from our 3 branch campuses, as well as making other necessary updates. We anticipate being able to meet our goal of having a proposal to present for approval at the January University Staff Assembly.
- Feedback was gathered from members of the 4 university staff governance committees on the proposed new University Mission Statement. Tentative feedback is as follows:
 - Some of our members derived a negative feeling when reading the phrase “problem-focused” and suggested “solution-focused” or “problem-solving focused” instead.
 - Another suggestion was to add “educational opportunity and teaching excellence” at the beginning of the list in the first sentence of the second paragraph, and rearranging the order so it would read:

*Our culture and vision reflect a deep commitment to **educational opportunity, teaching excellence**, diversity, inclusion, social justice, and engaged citizenship at all levels. Our operational foundations value community-based partnerships, collaborative faculty scholarship and innovation.*
 - Due to notification that an additional listening session and further review by faculty governance would be forthcoming, a full discussion of the statement and a vote to determine affirmation were tabled until the October 18th USC meeting.

Respectfully submitted,

Jan Snyder, Chair
University Staff Committee

**Academic Staff Committee Report for Faculty Senate
October 10, 2018**

- The Academic Staff Committee reviewed and discussed the Chancellor's draft Select Mission and are waiting the Faculty Senate vote.
- We are reviewing committee charges for possible revisions.
- The ASC is planning an all-Academic Staff Assembly for Tuesday, December 4, 2018 at 3:00 pm in the Christie Theatre.

Respectfully submitted,

Jamee Haslam, Chair
Academic Staff Committee