# KANSAS BOARD OF REGENTS ACADEMIC AFFAIRS STANDING COMMITTEE 

## MEETING AGENDA

Wednesday, November 18, 2020
10:30 a.m.
The Board Academic Affairs Standing Committee (BAASC) will meet by video conference. Meeting information will be sent to participants via email, or you may contact arobinson@ksbor.org.
I. Call to Order

Regent Kiblinger
A. Roll Call
B. Approve minutes from November 3, 2020 video conference
II. Other Matters
A. TAAC 2020 Quality Assurance Report (TAAC 2020 QA Report)
B. Apply Kansas Update
C. Low Enrollment Program Reviews

1. K-State
2. WSU
D. Direct Support Professionals (DSP) Update
E. Coordinating Council Update

Melinda Roelfs
Tara Lebar
Daniel Archer
Chuck Taber
p. 7

Shirley Lefever
p. 22

Regent Schmidt
Regent Kiblinger
III. Suggested Agenda Items for December $1^{\text {st }}$ BAASC Conference Call
A. New Program Approvals
B. Approve AY 2019 Performance Reports (continued)
C. Approve New Courses for Systemwide Transfer

## IV. Adjournment

## Board Academic Affairs Standing Committee

Four Regents serve on the Board Academic Affairs Standing Committee (BAASC), established in 2002. The Regents are appointed annually by the Chair and approved by the Board. BAASC meets by conference call approximately two weeks prior to each Board meeting. The Committee also meets in person the morning of the first day of the monthly Board meeting. Membership includes:
Shelly Kiblinger, Chair
Ann Brandau-Murguia
Helen Van Etten
Allen Schmidt

## Board Academic Affairs Standing Committee

AY 2021 Meeting Schedule

| Meeting Dates | Time | Location | Institution Materials Due |
| :--- | :--- | :--- | :--- |
| August 25, 2020 | $11: 00 \mathrm{am}$ | Conference Call | July 30, 2020 |
| September 9, 2020 | $1: 30 \mathrm{pm}$ | Topeka | August 19, 2020 |
| October 14, 2020 | TBD | KU **CANCELED** | September 25, 2020 |
| November 3, 2020 | $11: 00 \mathrm{am}$ | Conference Call | October 15, 2020 |
| November 18, 2020 | $10: 30 \mathrm{am}$ | Topeka **Originally 10:15 at ESU** | October 28, 2020 |
| December 1, 2020 | $11: 00 \mathrm{am}$ | Conference Call | November 12, 2020 |
| December 16, 2020 | $10: 15 \mathrm{am}$ | Topeka | November 24, 2020 |
| January 5, 2021 | $11: 00 \mathrm{am}$ | Conference Call | December 17, 2020 |
| January 20, 2021 | $10: 15 \mathrm{am}$ | Topeka | December 30, 2020 |
| February 2, 2021 | $11: 00 \mathrm{am}$ | Conference Call | January 14, 2021 |
| February 17, 2021 | $10: 15 \mathrm{am}$ | Topeka | January 27, 2021 |
| March 2, 2021 | $11: 00 \mathrm{am}$ | Conference Call | February 11, 2021 |
| March 17, 2021 | $10: 15 \mathrm{am}$ | Topeka | February 24, 2021 |
| March 30, 2021 | $11: 00 \mathrm{am}$ | Conference Call | March 11, 2021 |
| April 14, 2021 | $10: 15 \mathrm{am}$ | FHSU | March 24, 2021 |
| May 4, 2021 | $11: 00 \mathrm{am}$ | Conference Call | April 15, 2021 |
| May 19, 2021 | $10: 15 \mathrm{am}$ | Topeka | April 28, 2021 |
| June 1, 2021 | $11: 00 \mathrm{am}$ | Conference Call | May 13, 2021 |

# Kansas Board of Regents Board Academic Affairs Standing Committee 

## MINUTES

Tuesday, November 3, 2020
The November 3, 2020 meeting of the Board Academic Affairs Standing Committee (BAASC) of the Kansas Board of Regents was called to order by Regent Kiblinger at 11:00 a.m. The meeting was held by Zoom.

## In Attendance:

| Members: | Regent Kiblinger, Chair <br> Regent Murguia | Regent Schmidt | Regent Van Etten |
| :--- | :--- | :--- | :--- |
| Staff: | Daniel Archer |  |  |
|  | Amy Robinson | Karla Wiscombe | Tara Lebar |
|  | Cindy Farrier | Sam Christy-Dangermond | Steve Funk <br> Others: <br>  <br> Scott Smathers |
|  | Brad Bennett, Colby CC | Jennifer Armour |  |
|  | Jean Redeker, KU | Aron Potter, Coffeyville CC | Jane Holwerda, Dodge City CC |
|  | Howard Smith, PSU | Brian Niehoff, K-State | Charles Perkins, Barton County CC |
|  | Scott Lucas, WSU Tech | Corey Isbell, NKCTC | Elaine Simmons, Barton County CC |
|  | Linnea GlenMaye, WSU | Lori Winningham, Butler CC | Caicey Crutcher, Barton County CC |
|  | Michelle Schoon, Cowley CC | Shirley Lefever, WSU | Kim Morsell, Seward County CC |
|  | Matt Schuette, KUMC | Adam Borth, Fort Scott CC | JuliAnn Mazachek, Washburn |
|  | Robert Klein, KUMC | Aleks Sternfeld-Dunn, WSU | Steve Loewen, FHTC |
|  | Erin Shaw, Highland CC | Amit Chakrabarti, K-State | Lisa Kirmer, FHTC |
|  | John Masterson, Allen CC | Jason Sharp, Labette CC | Graham Leach Krouse, K-State |
|  | Deanna Carpenter, Allen CC | Jerry Pope, KCKCC | Lisa Kolm, Pratt CC |
|  | Ben Wolfe, KU | Kim Zant, Cloud CC | Esam Mohammad, Butler CC |
|  | Ken Fischer, KU | Monette DePew, Pratt CC | Scott Tanona, K-State |
|  | Kaye Monk-Morgan, WSU | Michael Calvert, Pratt CC | Craig Harms, K-State |
|  | Heather Morgan, KACCT |  |  |

Regent Kiblinger welcomed everyone. Roll call was taken for members and presenters.

## Approval of Minutes

Regent Schmidt moved to approve the September 9, 2020 meeting minutes, and Regent Van Etten seconded the motion. With no corrections or discussion, the motion passed.

## Consent Items

Jean Redeker presented the KU request for a Master of Engineering in Bioengineering and Ken Fisher, Bioengineering Program Director, was available for questions. KU already has a Master of Science in Bioengineering, and the new program will be a non-thesis option. Jean stated it is an interdisciplinary program that pulls from current courses and faculty. Regent Kiblinger asked if this program will impact the similar program at WSU. Ken responded their target students are professionals in the Kansas City area. He noted they expect several degrees in this program per year but don't anticipate this program to have a major effect on the WSU program. Shirley Lefever and Linnea GlenMaye responded that WSU has no issues with the program, and they feel that there is room in Kansas for both programs.

Jean Redeker and Ben Wolfe presented the KU request for a Bachelor of Health Sciences. Ben Wolfe, Professor at the KU Edwards Campus, was instrumental in creating this new program. Ben stated the degree was designed to meet the needs of transfer students from regional Kansas City Metro community colleges looking to complete a bachelor's degree. The degree was established for students interested in health industry areas such as nutrition, public and population health, and health care management. Regent Schmidt asked what job titles this would include. Ben responded students could pursue entry-level positions in hospital management and health insurance, and it also leads to a pipeline for graduate programs. Ben noted the main emphasis of the program is to serve administrative and managerial routes within health fields. Ben discussed the current high demand in health-related fields and occupations.

Brian Niehoff presented the K-State request for a Bachelor in Public Health. Craig Harms was available for questions. K-State currently has a Master's in Public Health. Brian noted a demand for bachelor degrees in public health fields for health specialty teachers, community health workers and educators, and county health directors. This is an interdisciplinary degree spanning across five of their colleges. It is a 120 -hour program with over 60 hours devoted to health and science courses, and it will use existing courses and faculty.

Brian Niehoff presented the K-State request for a BA and BS in Integrated Computer Science. Graham Leach Krouse was available for questions. Brian noted this was an interdisciplinary degree. Currently, K-State has a computer science degree program in engineering, and the new degrees will be accessible for non-engineering students. Brian noted these degrees would open up opportunities for students who have an interest in arts and sciences as well as technology. They will use existing courses and faculty and believe it will be a strong program.

Regent Van Etten made a motion to approve the four program requests for placement on the Board consent agenda in November, and Regent Schmidt seconded the motion. With no further discussion, the motion passed unanimously by roll call vote.

## AY 2019 Performance Reports

Sam Christy-Dangermond presented AY 2019 Performance Reports up for approval. Sam noted that performance funding is only available when the legislature allocates new money. Each report is measured from six metrics with a goal to meet or exceed the baseline of each metric. Institutions must meet or exceed the baseline on at least four metrics to qualify for $100 \%$ of any new funding.

The Committee was presented performance reports from ten institutions, each being recommended to receive $100 \%$ of any new legislative funding in July 2021 for which they are eligible:

1. University of Kansas
2. University of Kansas-Medical Center
3. Allen Community College
4. Barton Community College
5. Butler Community College
6. Fort Scott Community College
7. Labette County Community College
8. Pratt Community College
9. Flint Hills Technical College
10. Wichita State University Campus of Applied Sciences and Technology

Committee members spent time discussing data issues with calculating KUMC's indicator for increasing the percentage of practicing physicians in Kansas trained at the Medical Center. In the past, social security numbers were used to track these individuals; however, this data is no longer available. The data was previously accessible through a partnership between the KU School of Medicine and the Board of Healing Arts. Matt Schuette mentioned the AAMC (American Association of Medical Colleges) publishes a report every two years
that allows KUMC to see how they're doing nationally. Potential future data sources, such as the Kansas Department of Labor, were discussed. KBOR receives labor data from Kansas and Missouri, but it does not include occupational data. Regent Schmidt noted this type of data aligns with the Board's Strategic Plan goal of meeting the needs of the Kansas economy and he expressed concerns with tracking data.

Regent Schmidt made a motion to approve the ten AY 2019 performance reports for $100 \%$ of any new funding in July 2021, and Regent Van Etten seconded the motion. With no further discussion, the motion passed unanimously by roll call vote.

## SARA Policy Changes

Jennifer Armour presented on policy changes to the State Authorization Reciprocity Agreement (SARA). Jennifer noted SARA is an agreement that allows institutions to offer distance education in member states without having to obtain approval from each state. The Board serves as the state portal entity approving the participation of institutions in Kansas. The National Council for SARA requires member states have processes in place to address student complaints and an institutional appeals process. During the September 9 BAASC meeting, it was recommended that these processes be drafted for placement in the Board Policy Manual.

Regent Murguia made a motion to approve the inclusion of SARA policy changes as presented for Board approval in November, and Regent Van Etten seconded the motion. With no further discussion, the motion passed unanimously by roll call vote.

## Additional Updates

Daniel Archer provided an update from the General Education (GE) Working Group. Daniel noted the group has met twice. A comprehensive survey was created to identify challenges in GE and transfer at colleges and universities. Daniel summarized survey responses into three core themes; 1) Lack of Continuity within the System, 2) Specific Course or Discipline-Area Issues, and 3) Baccalaureate Degree Credit Hour Requirement Barriers. Daniel stated transfer challenges identified were inconsistencies from one university to another and variances from one academic department to another and clarified that there is little to no policy structure in place outside of systemwide transfer. Challenges associated with discipline-specific courses not transferring or fulfilling degree requirements were also identified. Daniel believes there is opportunity to improve course transfer in math and science. The survey also identified challenges with the current KBOR baccalaureate degree policy definition, which requires 60 hours be taken at the university, 45 of which must be taken at the upper level. These policies create challenges in extending degree time, which impacts affordability. Daniel noted the Board is looking at this policy in the near future. The goal of GE is to ensure students demonstrate knowledge and skills. The GE group is looking at common threads in this area to develop a framework that guides creating a GE package for use across our system institutions.

Regent Schmidt provided a Direct Support Professionals (DSP) Working Group update. Regent Schmidt stated the impact of these workers has a broad impact on Kansas and involves many different organizations. They have discussed creating a coordinator position to manage all interested parties. He noted WSU is creating a one-page description of the position and he will share that when it becomes available.

Regent Kiblinger provided a brief update from the Coordinating Council. She noted they have not met recently, but work is being done to create several working groups. Tara will provide more details in her following update.

Tara Lebar provided an update on the newly formed IPS Coordinating Workgroup and Coordinating Advisory Committee. The two groups were created at the Coordinating Council's request, and progress will be reported on a continual basis to the council and BAASC. Tara provided a document showing membership, each group's main tasks, and an anticipated meeting schedule. Members are comprised from across Kansas, from a variety of institutions both at the secondary \& post-secondary level with inclusion in mind. The Committee requested the presentation listing committee members be emailed to them.

## Adjournment

The next BAASC meeting is scheduled for November 18 at 10:30 a.m.

Regent Murguia moved to adjourn the meeting, and Regent Van Etten seconded the motion. With no further discussion, the meeting adjourned at 12:16 p.m.

# KANSAS STATE UNIVERSITY 

# Report on Strategic Program Alignment Review Of Low Enrolled Programs AY 2020 

Charles S. Taber<br>Provost and Executive Vice President

## \&

Brian P. Niehoff

Associate Provost for Institutional Effectiveness

This report is in response to the Kansas Board of Regents' request for an assessment of Kansas State University’s low enrolled programs from AY 2020 within the Strategic Program Alignment initiative. The format for our review follows the guidelines provided by the Board. In this review, we assess three core areas for each program: essentiality, productivity, and cost effectiveness.

For each program reviewed, we provide the following information:

- Faculty profile, which includes:
- number of faculty dedicated solely to the program; and
- number of department faculty teaching:
- core courses in the program;
- elective courses in the program; and
- general education courses.
- Written narrative with supporting data to address:
- the date in which the program was founded;
- the degree to which the program supports the university's mission, strategic plan, or goals;
- program productivity beyond number of majors;
- cost effectiveness;
- employment demand (current and future); and
- program strengths and weaknesses.
- Recommendation to:
- continue the program;
- discontinue the program;
- additionally review the program; or
- merge the program.
- Written narrative to justify the recommendation.

We have provided reviews for the following programs:

1. BS in American Ethnic Studies
2. BS in Gender, Women, and Sexuality Studies
3. BA in Humanities
4. BS in Physical Sciences
5. BA/BS in Medical Laboratory Sciences
6. BS in Statistics
7. AS in Applied Business

We believe that we have addressed all of the issues requested. We also included references in the review of each program for any support information on careers and employment opportunities for each discipline.

Please let us know if there is any additional information that is needed. We are planning to present this report to the Board Academic Affairs Standing Committee on November 18, 2020.

Program 1: BS in American Ethnic Studies

## Faculty profile:

- Number of Faculty dedicated solely to the program
- There are six core faculty members in the department: One professor, two associate professors, one assistant professor, and two instructors.
- The Department of American Ethnic Studies (AES) partners with 26 "affiliated" faculty from 14 other departments at K-State. These 26 affiliated faculty members teach courses in their own disciplines that count as elective courses in the AES major.
- Number of department faculty teaching:
- Core Classes: There are eight core courses in the program. The six core faculty members teach all of these courses, with an occasional adjunct assisting.
o The Introduction to American Ethnic Studies usually offers 10 sections each semester and has average enrollments of 750 per year over the past 5 years. The class is listed as one of the top 10 foundational classes in the College of Arts and Sciences. This course is also a required class in other programs.
- Electives: There are four elective courses in the BS degree program taught by the AMETH department, all of which are generally taught by core faculty members. One of the electives is a Topics in American Ethnic Studies class, which has drawn average enrollments of over 120 students per year over the past 5 years. o As noted above, there are 20+ courses in other departments across KState that are considered electives for the American Ethnic Studies major. These courses are taught by affiliated faculty in those departments. Courses from these departments all cover topics related to ethnic cultures, including ethnic literature (English), global human rights (Political Science), indigenous people of North America (Anthropology), and the history of jazz (Music, Theater, and Dance).
- General Education: All classes offered in the American Ethnic Studies department satisfy the Human Diversity in the US area of the K-State 8 (K-State’s general education program). All students at K -State must take one course in each of the K-State 8 areas. In addition, the College of Arts \& Sciences requires a US multicultural overlay for all programs in the College, and the AES courses are a primary source by which students satisfy this requirement.


## Narrative:

The American Ethnic Studies degree program was started in 1996, and for years was offered as a degree program within the Dean's Office of Arts and Sciences. American Ethnic Studies became a department in 2013. All current faculty were hired in the past seven years. Since that time, AES serves as the most prominent source of undergraduate education pertaining to ethnic cultures, diversity and inclusion at K-State. We consider
the AES program and its courses to be an important part of our educational mission as a university. Our general education program - the K-State 8 - requires that all undergraduates take courses in eight key areas. Human Diversity in the US is one of these key areas. All courses offered in the AES program are tagged as K-State 8 courses for Human Diversity in the US. In addition, the AES courses serve to satisfy the multicultural overlay requirement in the College of Arts and Sciences. K-State is currently planning to expand that multicultural overlay to all majors, which would increase the importance of AES courses. The program also supports a minor and certificate in American Ethnic Studies. An average of 14 students per year have completed the AES minor over the past 5 years.

The program is very productive beyond its number of majors or graduates. AES classes accounted for an average of 3,131 student credit hours per year from AY 2016-2020, and the trend shows an increase from 2,511 SCH in AY 2016 to 3,612 in AY 2020. It should be noted that this average only includes courses labeled as AES classes, thus does not include the many elective courses taught by affiliated faculty from other departments.

The department delivers the major and all of its courses despite being one of the smallest departments in the university. Its interdisciplinary partnerships with other departments are an advantage that allows for much flexibility for students in the major. All faculty in the department teach in the major, and the tenure track and tenured faculty carry additional research expectations in their appointments. They are productive, publishing books in national presses and journal articles in top journals. The core faculty also perform an enormous amount of service at the university and in the community. The AES program serves to attract students of color to the university and assists in the retention of those students. Faculty serve as academic and personal advisors to many students of color. For some, the department is considered a home away from home.

The strengths of the department are its ability to support the K-State 8 area of Human Diversity in the US, producing over 3,100 credit hours per year, which is growing each year (3,600 in the most recent year). The focus on American ethnic cultures is central to the diversity and inclusion educational mission at K-State. It is interdisciplinary, which increases its efficiency and creates flexibility to deliver a broader set of courses for students in the major.

Its strengths can also be weaknesses. Interdisciplinary programs are often more difficult to market, as high school students lack familiarity with AES programs. The ability to recruit new students is limited by the few faculty members in the department.

Regarding employment demand, AES majors are uniquely prepared for the real-world opportunities emerging within the rapidly changing demographics in the US. The knowledge, skills and abilities gained in an AES major prepares students to understand the context of America's multiple cultures, as well as communicate with and about such cultures. These skills apply to all contexts - business management and marketing, education, nonprofit, and health care, to name a few. As the U.S. has become more diverse, AES topics have grown in importance. Business publications have noted the
importance of multicultural competence and diversity training (Business.com, 2018; Harvard Business Review, 2019; Inc.com, 2018).

Payscale.com (2020) lists the average salary for a BA in Ethnic Studies to be nearly $\$ 61,000$. Recent K-State graduates in AES have taken jobs in urban planning, advertising, banking, human services, and community work. The major is an excellent preparation for law school, graduate study, social work, and many other fields. About $30 \%$ of recent graduates of the program have been accepted into law school.

## Recommendation and Justification:

We recommend continuing the BS in American Ethnic Studies. This area is too important to the diversity and inclusion mission at K-State at this time to consider otherwise. We feel that the program is run efficiently. Its costs are relatively low, and its production of student credit hours provides financial support for the program.

## References:

Business.com (2018), https://www.business.com/articles/business-cultural-competence/ Harvard Business Review (2019), https://hbr.org/2019/04/3-ways-to-improve-your-cultural-fluency
Inc.com (2018), https://www.inc.com/melissa-lamson/cultural-competence-your-most-valuable-business-asset.html
Payscale.com (2020), https://www.payscale.com/research/US/Degree=Bachelor_of_Arts_(BA)\%2C_Ethnic_St udies/Salary

Program 2: BS in Gender, Women, and Sexuality Studies

## Faculty profile:

- Number of Faculty dedicated solely to the program
- There are five core faculty members in the department: One full professor, three associate professors and one assistant professors
- Gender, Women, and Sexuality Studies (GWSS) also lists nearly 50 faculty as affiliated faculty who are in departments outside of GWSS. These faculty offer classes in their own disciplines which count as electives in the GWSS program. Departments represented among the affiliated faculty include American ethnic studies, English, anthropology, history, philosophy, sociology, social work, modern languages, political science, communication studies, and psychology.
- Number of department faculty teaching:
- Core Classes: There are four core courses in the program, all of which are taught by the five full-time faculty in the department.
- Electives: There are five clusters of classes that students can take for their elective courses in the BS GWSS degree program. The GWSS department offers 20+ electives, and the 50 affiliated faculty from other disciplines offer over 80 courses that may also count as electives for the GWSS degree.
- General Education: Core and elective courses in the GWSS major satisfy six of the eight areas in the K-State 8 general education program:
o Human Diversity in the US area ( 15 courses)
o Social Sciences (8)
o Ethical Reasoning and Responsibility (7)
o Aesthetic Interpretation (3)
o Historical Perspectives (3)
o Global Issues and Responsibilities (2)
- In addition, six courses fulfill the U.S. Multicultural Overlay requirement of the College of Arts and Sciences.


## - Narrative:

The GWSS degree program was started in 1996 as Women’s Studies. Its name was changed in 2016 to GWSS to account for the broadening of its focus to include all aspects of gender, gender identity and sexual orientation. The Women's Studies program only became a separate department in 2013. Prior to that, the degree was administered through the Dean's Office in the College of Arts and Sciences. With its focus on diversity and inclusion, the GWSS program and its courses play a prominent role in our undergraduate educational mission.

Our general education program - the K-State 8 - requires that all undergraduates take courses in eight key areas. All courses offered in the GWSS program are tagged as KState 8 courses for six of the eight areas, with most (15) satisfying the requirement for Human Diversity in the US. Through this role in general education, the GWSS program is quite productive. GWSS classes accounted for an average of nearly 2,200 student credit hours per year from AY 2016-2020. It should be noted that this average of student credit hours only counts the courses specifically labeled for the GWSS courses. The interdisciplinary nature of the major includes a wide selection of courses from other departments, and those are not counted in the total student credit hours for GWSS.

In addition to the K-State 8, all majors within the College of Arts and Sciences require three hours of courses focused on multicultural topics. Six courses in the GWSS major are included as courses satisfying this multicultural overlay.

The department delivers the major and all of its courses despite being one of the smallest departments at the university. It does this through the efficient use of its affiliate faculty, and its interdisciplinary partnerships with other departments in the university. The department core faculty deliver all of the GWSS courses, and affiliated faculty in other departments provide important course work that explores different contexts and applications. The tenure track and tenured faculty not only support the teaching mission of the department, but also carry research expectations in their appointments. Three of the five faculty in the department have new books being published in 2020 or 2021. One faculty member has another book under contract and is also preparing a new edition of an introductory-level GWSS textbook that is widely used across the country.

The strengths of the department are its ability to support the K-State 8 , especially the area of Human Diversity in the US, producing nearly 2,200 credit hours per year. The focus on American gender, women, and sexuality issues is central to our diversity and inclusion academic mission at K-State. Faculty members in the department also contribute to the diversity and inclusion mission of the university in their work outside the classroom, in their capacity as faculty advisors to students. The department both teaches about diversity and inclusion but also serves a large number of diverse students, including men and women of color, LGBTQ students, and low income, first generation students. Faculty members in GWSS provide support, mentoring, and advising to these students, and in so doing, support the university's efforts to recruit, retain, and graduate students from underrepresented groups. GWSS is also an interdisciplinary program, which adds flexibility to its ability to deliver courses for students interested in the major.

Its strengths can also be weaknesses. Interdisciplinarity means that students are allowed to take multiple courses offered by other departments as electives for the major; as such, the department channels student credit hours to other departments in the college. This is both a strength, in that the department is a team player within the college, but also a weakness, because there is not a mechanism in place to accurately reflect the SCH generated by its majors. Also, interdisciplinary programs are often more difficult to market, as high school students lack familiarity with GWSS programs and the opportunities that stem from a GWSS degree. Student recruitment to the major is challenging with so few faculty members.

Regarding employment demand, the GWSS degree has only had four years of programming at this point. The prior degree in Women's Studies was quite successful in producing graduates who went on to careers in law, violence prevention and advocacy, human services, business, education, and many others (KSU Gender, Women, and Sexuality Studies, 2020). In general, the employment opportunities for GWSS degrees are broad and generally high paying positions (DegreeQuery.com, 2020; Tradeschools.net, 2020). Payscale.com (2020) lists the average salary for graduate with a BA in Gender Studies to be over $\$ 50,000$.

## Recommendation and Justification:

We recommend continuing the BS in Gender, Women, and Sexuality Studies. This area is a major contributor to our general education program on diversity and inclusion. Its interdisciplinary partnerships provide a broad array of support across the university and reflect a program that is delivered quite efficiently. We feel that the cost of maintaining the program is relatively low, and the productivity beyond the number of majors is critical to our mission as a university.

## References:

DegreeQuery.com (2020), https://www.degreequery.com/gender-studies-degrees/ KSU Gender, Women, and Sexuality Studies website (2020), https://www.kstate.edu/gwss/alumni/careers.html)

Payscale.com (2020),
https://www.payscale.com/research/US/Degree=Bachelor_of_Arts_(BA)\%2C_Gender_St udies/Salary
Trade-schools.net (2020), https://www.trade-schools.net/articles/gender-studies-jobs

## Program 3: BA in Humanities

## Faculty profile:

- Number of Faculty dedicated solely to the program
- There are no faculty solely dedicated to this program. The program is a mix of courses across multiple departments in the College of Arts and Sciences.
- The humanities disciplines include American ethnic studies, anthropology, art, art history, communication studies, creative writing, dance, gender, women, and sexuality studies, history, literature, mass communications, modern languages, music, philosophy, and theater.
- All courses that may be used for this degree are already taught for the majors in those departments.
- Number of department faculty teaching:
- Core Classes: There are no specific core classes for this degree. Students work with the humanities advisor to develop a plan of study with a thematic emphasis.
- Electives: All classes are electives and are taught by faculty in the respective humanities disciplines.
- General Education: Nearly all classes offered for this major would qualify as a credit for one of the K-State 8 areas.


## Narrative:

The Humanities degree program was started in 1980. It is an interdisciplinary program involving 10+ departments in the College of Arts and Sciences. While each of the departments has its own major, there was a need to create a broader degree in humanities that would be attractive to students who were not interested in any single discipline. It offers the opportunity for students to expand their knowledge across disciplines. It also serves as a gateway for student success for those students who have tried a number of majors but are not satisfied with any specific one. The humanities degree program is a pathway to a degree for those students

Although the number of graduates and majors is generally low, the degree program costs literally nothing to administer. There are no faculty dedicated to the program, nor a department with overhead costs.

Humanities majors are qualified for many types of jobs in business, education, nonprofit, and other fields (Study.com, 2020). Their preparation includes communication classes, writing classes, public speaking and cultural competence. Humanities graduates enter the
job market or are accepted into graduate studies or law school. Payscale.com (2020) lists the average salary for a BA in Humanities to be over \$64,000.

The primary strength of the program is that it offers a pathway to graduation for students who are undecided on a major or not interested in specializing in one discipline. Also, the program is offered at basically no cost to the university since all courses in the program are offered by the multiple departments for their own degrees.

The only real weakness may be that a general humanities degree is not linked to any specific job or career, and thus has trouble drawing students. Better marketing of the opportunities of a humanities degree would help with that.

## Recommendation and Justification:

We recommend continuing the BA in Humanities. There is no real cost for offering this degree program, and even though it has very few majors, it offers those students a pathway to graduation that might not be there for them otherwise.

## References:

Payscale.com (2020),
(https://www.payscale.com/research/US/Degree=Bachelor_of_Arts_(BA)\%2C_Humaniti es/Salary
Study.com (2020),
https://study.com/articles/25_Great_Jobs_for_Humanities_Majors.html

## Program 4: BS/BA in Physical Sciences

## Faculty profile

- Number of Faculty dedicated solely to the program
- There are no faculty solely dedicated to this program. The program is a mix of courses across multiple departments in the College of Arts and Sciences and the College of Engineering.
- The physical science disciplines include biology, biochemistry, chemistry, geography, geology, mathematics, physics, statistics, and computer science.
- All courses that may be used for this degree are already taught for the majors in those departments.
- Number of department faculty teaching:
- Core Classes: There are no specific core classes for this degree, although there are limited options for courses that can be taken for the major which cut across all areas within the science disciplines. Students work with the physical sciences advisor to develop a plan of study that best fits their needs.
- Electives: There a limited set of elective courses from across science disciplines. These courses are taught by faculty in the respective science disciplines.
- General Education: Nearly all classes offered for this major would qualify as a credit for one of the K-State 8 areas.


## Narrative:

The Physical Sciences degree program was started in 1980. It is an interdisciplinary program involving eight departments in the College of Arts and Sciences and computer science in the College of Engineering. While each of the departments has its own major, there was a need to create a broader degree in physical sciences that would be attractive to students who were not interested in any single science discipline. It offers the opportunity for students to expand their knowledge across disciplines. It also serves as a gateway for student success for those students who may have tried a number of majors but are not satisfied with any specific one. The general sciences degree program is a pathway to a degree for those students

Although the number of graduates and majors is generally low, the degree program costs literally nothing to administer. There are no faculty dedicated to the program, nor a department with overhead costs.

Graduates with a physical sciences major are qualified for many types of technical and engineering positions across many industries. Recent graduates have taken positions as project managers, associate engineers and other related jobs. Their plan of study prepares them for a broad array of industry positions, as well as graduate studies in the sciences. Payscale.com (2020) lists the average salary for a general science degree to be $\$ 73,000$.

The primary strength of the program is that it offers a pathway to graduation for students who are undecided on a major or not interested in specializing in one discipline. Also, the program is offered at basically no cost to the university since all courses in the program are offered by the multiple departments for their own degrees.

The only real weakness may be that a general science degree is not linked to any specific discipline, thus it may not be as attractive to many students.

## Recommendation and Justification:

We recommend continuing the BS/BA in Physical Sciences. There is no real cost for offering this degree program, and even though it has very few majors, it offers those students a pathway to graduation that might not be there for them otherwise.

## References:

Payscale.com (2020),
https://www.payscale.com/research/US/Degree=Bachelor_of_Science_(BS_\%2F_BSc)\% 2C_General_Science/Salary

[^0]
## Faculty profile:

- Number of Faculty dedicated solely to the program
- There are no faculty solely dedicated to this program. The program is a mix of courses across multiple departments in the College of Arts and Sciences.
- There are two clinical directors of the MLS program listed as adjunct faculty (unpaid) who work at the two hospitals with whom we have agreements.
- The science and health disciplines include biology, biochemistry, chemistry, mathematics, physics, and statistics.
- All courses that may be used for this degree are already taught for the majors in those departments.
- Number of department faculty teaching:
- Core Classes: The required classes for this major are specific, given its purpose. The required courses are from six departments and would be taught whether the major would be offered or not.
- Electives: There are a few limited electives taught from three different disciplines.
- General Education: Nearly all classes offered for this major would qualify as a credit for one of the K-State 8 areas.
- Clinical experience: The program requires 30 hours of clinical training. Clinical directors at the hospitals are listed as adjunct faculty but not paid by K-State.


## Narrative:

The Medical Laboratory Science degree program dates back to 1980. It was originally called Medical Technology, then changed to Clinical Laboratory Sciences in 2004. The name was changed to Medical Laboratory Science in 2017. It is an interdisciplinary program involving six departments in the College of Arts and Sciences. Completion of the program, including the clinical hours, prepares students to sit for the American Society for Clinical Pathology Board of Certification exam.

Although the number of graduates and majors has been low, the numbers have increased in the past few years. One limiting factor is that there are only a limited number of spaces available for students at the clinical sites. Since it is taught across multiple departments using courses that are already offered, the degree program costs very little to teach. There are no faculty dedicated to the program, nor a department with overhead costs. There is an advisor in the Dean's office who assists students with their plan of study and the clinical placement. K-State has affiliation agreements with two Kansas City hospitals for the clinical sites, but students are encouraged to seek other placement sites as well. We are working on more affiliation agreements with additional hospitals in the KC area.

Graduates with the Medical Laboratory Science (MLS) degree are qualified so sit for the ASCP Board of Certification exam. We have a $100 \%$ pass rate for those students who complete the program. All of our graduates are hired upon graduation into the medical lab field. There is more demand than there are graduates in MLS. The exam opens up
opportunities in the health care field in high paying positions (\$60,000). Payscale.com (2020) quotes an average salary of $\$ 26$ - $\$ 27 /$ hour ( $\sim \$ 52,000$ ) for the BS degree in MLS.

The primary strength of the program is that it offers a strong program that prepares students for an in-demand career in the health care industry. Jobs are plentiful. The university has affiliation agreements with hospitals for clinical placements in place and will soon be adding more sites. Also, the program is offered at little additional cost to the university since all courses in the program are offered by the multiple departments for their own degrees.

The only weakness may be that the program is very specialized, and marketing needs to be improved. The recent enrollments show an increase in interest in the field of medical lab science.

## Recommendation and Justification:

We recommend continuing the BS/BA in Medical Laboratory Science. It is a good quality program that has had success in preparing students for solid careers in the health care industry. It is a low-cost program for the university.

## References:

Payscale.com (2020),
https://www.payscale.com/research/US/Degree=Bachelor_of_Science_(BS_\%2F_BSc)\% 2C_Medical_Laboratory_Science/Hourly_Rate

## Program 6: BS/BA in Statistics

## Faculty profile:

- Number of Faculty dedicated solely to the program
- There are 15 core faculty members in the department: the department head, three professors, three associate professors, six assistant professors, and two nontenure track faculty.
- Statistics faculty also support master and doctoral degrees in statistics, and a graduate certificate in applied statistics. The undergraduate degree also added a data science track, which has increased enrollments.
- Number of department faculty teaching:
- Core Classes: All faculty contribute to the teaching of courses in the major at some time, with the two nontenure track and graduate teaching assistants in the larger courses that attract majors from across campus. Masters-level and doctoral classes must be staffed by the tenured and tenure-track faculty. There are eight statistics courses in the core, six of which are at the 600-level and above, and thus must be taught by doctoral-qualified faculty.
- Electives: There are six statistics courses listed as electives in the degree program. Of these, three are entry level, which are staffed by a mix of nontenure track faculty, tenure-track faculty, and GTAs.
- General Education: Statistics classes are required by many programs around the university. In fact, the statistics classes produced a five-year average of nearly 12,000 student credit hours per year. This is one of the highest producing departments in the university. These classes all count for the Empirical and Quantitative Reasoning area in the K-State 8 program.


## Narrative:

The Statistics undergraduate degree program was started in 1980. The department also supports a master degree, as well as a doctoral degree. The bachelor degree was changed in 2017 to add a track in data science, which has had a positive impact on enrollments.

Although the number of graduates and majors have been low, both are on an upward trend. The department makes good use of graduate teaching assistants to staff the courses that require numerous sections. The department, as noted above, is highly productive in terms of student credit hours.

Data show that over $90 \%$ of the students who complete the undergraduate degree are employed or admitted to graduate school upon graduation. Graduates are placed in excellent positions in businesses and other industries, with a mean salary of $\$ 72,000$, which is slightly above the Payscale.com (2020) listed average salaries for statistics degrees. There is high demand for statistics majors, and the addition of the data science option is very attractive to employers.

The primary strength of the program is that it offers a strong program that prepares students for placement into excellent high-paying jobs and career paths. In addition, the statistics program offers classes that are required by nearly all programs around the university. The department produces nearly 12,000 credit hours per year. There will always be a need for statistics majors.

The only weakness is that the number of majors is under the KBOR minima, but recent enrollments have shown a positive trend.

## Recommendation and Justification:

We recommend continuing the BS/BA in Statistics. It is a high-quality degree program that has had success in preparing students for excellent jobs. The addition of the data science option will increase its attractiveness to students. Through its credit hour production, the program supports itself and other programs in the college.

## References:

Payscale.com (2020), https://www.payscale.com/research/US/Degree=Bachelor_of_Science_(BS_\%2F_BSc)\% 2C_Statistics/Salary

## Program 7: AS in Applied Business

## Faculty profile:

- Number of Faculty dedicated solely to the program
- The associate degree in applied business consists of 18 credits of business courses and 43 general education courses. There are five faculty who teach the business courses for the program. They also teach courses for the BS in Applied Business and Technology program.
- The AS degree is offered on the Polytechnic campus. They also offer a BS in Applied Business and Technology degree. This degree was a BS in Technology Management, and the name change was approved in 2019.
- The same courses offered for the AS degree are also taught for the BS degree.
- Number of department faculty teaching:
- Core Classes: There are four required classes in Business for the AS degree, and two economics courses. The five faculty in the Applied Business area teach all six classes. The BS in Applied Business and Technology contains these four, plus six others among their required courses, and the faculty in Applied Business teach all of these courses.
- Electives: There are two elective courses in the program, both taught by the faculty in Applied Business. Both of these electives are required in the BS in ABT degree. There are five elective courses in the BS degree program, which are also the responsibility of the five Applied Business faculty.
- General Education: The business courses in the degree program all count for credit in various areas of the K-State 8 program. In addition, there are 43 credits of general education in the AS program.


## Narrative:

The AS degree program in Applied Business has been taught on the Polytechnic campus since 2001. In 2012, the university put less emphasis on associate degree programs to focus more on bachelor programs. The AS program was re-emphasized in the past two years, then in 2019, the BS program in Technology Management was renamed Applied Business and Technology. The AS program now offers a pathway to a credential, in addition to the BS in ABT. The programs are more complementary than they are competitive. Students may begin taking courses in the AS program. Once they meet the 61 credit hours, they may opt for the AS credential, or continue to take courses for the BS in ABT. Since these programs have only had one year together, it is difficult to predict how many students will remain in or complete the AS degree.

With the renaming of the BS degree, the courses in the AS degree program will be taught whether the program exists or not. Thus, the program bears little to no cost for the Polytechnic campus.

Nealy all graduates with the AS degree in applied business are employed upon completion of the degree program. Positions obtained are in businesses and the aerospace industry. Some students who complete the AS degree also obtain a degree in another field, such as engineering technology or aviation. Payscale.com (2020) lists the average salary for an associate degree in General Business to be \$16-17/hour ( $\sim$ \$32,000 - \$34,000 per year at 2000 hours).

The primary strength of the program is that it offers a pathway to a credential for students who complete the coursework for the AS degree. While some students may opt to remain in the program to obtain the BS in ABT, the AS degree offers a shorter pathway for students who seek basic knowledge in business. The course work for the program will remain whether the program is offered or not, considering that the same course work applies to the BS in ABT degree.

There are really no weaknesses for the program. The low enrollments may be due to a lack of marketing of the program, which the Polytechnic campus is seeking to enhance in the years to come.

## Recommendation and Justification:

We recommend continuing the AS in Applied Business. There is no real cost for offering this degree program, and it offers a credential to students who are seeking basic business knowledge. The Polytechnic campus will be enhancing the marketing of the program.

## References:

Payscale.com (2020), https://www.payscale.com/research/US/Degree=Associate_of_Applied_Science_(AAS) \%2C_Business_Administration/Hourly_Rate

Wichita State University
Strategic Program Alignment

A Monitoring Report for the Kansas Board of Regents

11-4-2020

## Overview

The table below shows that seven (7) programs at Wichita State University are below the minimum enrollment threshold. Of the seven (7) programs:

- Four (4) programs are merging, being phased out/will be phased out, or new
o One (1) is folding into an interdisciplinary program (per strategic program alignment);
o One (1) is being phased out (plan to discontinue per strategic program alignment);
o One (1) will be phased out based on a programmatic accreditation requirement; and
o One (1) is new.
o Three (3) programs are active and at least 5-years old.

This report will focus on Manufacturing Engineering, recently renamed Product Design and Manufacturing Engineering; Multi/Interdisciplinary Studies, or the Honors Baccalaureate; and Philosophy.

The average number of majors and graduates in each low enrollment program is detailed below.

| Program | Average <br> Number of <br> Majors | Average <br> Number of <br> Graduates | Notes |
| :--- | :---: | :---: | :--- |
| WOMEN'S STUDIES. | 17 | 5 | Folding into an interdisciplinary program <br> per strategic program alignment |
| MANUFACTURING <br> ENGINEERING. | 16 | 4 | Specified it will place this program under <br> additional review |
| LIBERAL ARTS AND <br> SCIENCES/LIBERAL <br> STUDIES | 23 | 7 | Moving to phase-out status (plan to <br> discontinue per strategic program <br> alignment) |
| MULTI- <br> /INTERDISCIPLINARY <br> STUDIES, OTHER. | 2 | 1 | Interdisciplinary |
| PHILOSOPHY. | 20 | 7 | Supports General Education |
| HOMELAND <br> SECURITY. | 7 | N/A | New |
| ATHLETIC <br> TRAINING/TRAINER. | 23 | 5 | Will be phased out due to accreditation <br> requirements |

${ }^{1}$ Represents the 5-year average number of juniors and seniors majoring in a program each fall between 2014-2018.
${ }^{2}$ Represents the 5-year average number of program graduates between 2014-2018.

# Product Design and Manufacturing Engineering (Formerly Manufacturing Engineering) 


#### Abstract

The Product Design and Manufacturing Engineering (PDME) Bachelor of Science (BS) program is currently being evaluated as part of the KBOR strategic program review process. Given the importance of manufacturing to the economy of South-Central Kansas, we have spent the last several years completely revamping the program to better align it to the needs of manufacturing industries within our region. These efforts include hiring faculty with state-of-theart manufacturing expertise and updating the curriculum to align to the full digital thread used in modern manufacturing. While this work is still ongoing, our efforts have already led to significant gains in enrollment, graduates, and impact. We hope that the program evaluators see that we are on an exciting and positive trajectory and will agree that our efforts are leading to a vibrant and robust manufacturing engineering program.


1. FACULTY PROFILE: The PDME program currently has $\underline{3}$ dedicated faculty, plus another $\underline{8}$ faculty from its home Industrial, Systems, and Manufacturing Engineering department that teach elective courses in the program. As detailed below, the current plan is to add $\underline{2}$ additional PDME faculty members to support the continued revamp of the program.
2. PROGRAM NARRATIVE: Originally called Manufacturing Engineering, the PDME program was created in 1994 given the importance of manufacturing to the economy of South-Central Kansas. In fact, Wichita has the highest percentage of jobs in manufacturing of any of the 100 largest metro areas in the nation. Historically, this has been a blessing and a curse, given the ebbs and flows of manufacturing. However, manufacturing is making an important rebound in this country, and in Kansas. Manufacturing processes are evolving at a lightning fast pace as new technologies in automation, sensors, connectivity, etc. revolutionize the industry. The impact of Industry 4.0 concepts and digital manufacturing is causing nearly every manufacturer to create "advanced manufacturing" groups, including many here in Wichita that are part of our Industry Advisory Council. As such, it has never been more important for Kansas to have a well-trained and modern manufacturing engineering workforce.

Because of this smart manufacturing revolution, we began the process of revamping our Product Design and Manufacturing Engineering (PDME) bachelor’s program at WSU about five years ago. Specifically, we have updated our program to ensure that our graduates are trained in the full digital thread (see Figure 1). These changes are detailed below and align with other efforts at WSU. For example, the National Institute of Aviation Research (NIAR) has world-renowned expertise in advanced manufacturing and is a critical partner with producers of both commercial and defense aircraft. Building on this, the university is in the process of creating the National Institute of Digital Transformation, which will be another critical partner helping companies navigate the digital disruption occurring in their industries. We are a critical partner in this area with respect to manufacturing. For example, faculty from this program are already working with the two largest manufacturers in Wichita (Spirit AeroSystems and Textron Aviation) on digital transformation. Finally, based on these efforts, Deloitte recently announced that they are building the Deloitte

Smart Factory @ Wichita, which will be a one-on-a-continent example of what a truly interconnected digital factory is. As part of this smart manufacturing ecosystem that we are building, several other high-tech companies are moving into manufacturing and will soon be announcing their move to Wichita as well. In fact, Deloitte asked the dean of our college to be part of a panel discussion related to the future of manufacturing at this year's Consumer Electronics Show (an annual trade show organized by the Consumer Technology Association) in Las Vegas, along with others from Amazon Web Services (AWS) and Siemens. Clearly, Wichita is on the verge of reclaiming its rightful place back at the top of the manufacturing world, and our PDME program is a key part of that.


FIGURE 1: Manufacturing becoming an inherently digital discipline that starts from conception with the engineering design process and concludes with product delivery, all elements of which are taught in our updated PDME program.

Smart manufacturing and Industry 4.0 extend beyond the traditional concepts of manufacturing. The new skills required to excel in manufacturing include robotics and automation, sensorization and Internet of Things (IoT), advanced materials, additive manufacturing, cybersecurity, and data science. These areas are included in the PDME program and represent the College of Engineering's priority areas. Specifically, the dean has identified three growth priorities: (i) advanced materials; (ii) Industry 4.0 and smart manufacturing; and (iii) computing, data science, and cybersecurity. When coupled with our traditional strengths in aerospace engineering and power systems, these are the five areas needed to support the revitalization of our region's economy.

Program History: The PDME program has had low enrollment and few graduates over the last 12+ years. Much of this is due to the fact that the program, unfortunately, has never been staffed at a sufficient level (see Table 1). For this reason, the program has rarely been updated, and the curriculum has remained largely the same as our Industrial Engineering (IE) Bachelor of Science (BS) curriculum. With improvements in faculty support, we performed a major revamp of the curriculum in 2017, along with a change to the current program name. The impacts of increasing the size of the faculty and revamping the curriculum were profound and nearly immediate. For example, our overall enrollment nearly doubled in only three years, and this past year we had 13 graduates, exceeding the KBOR threshold for being triggered. We have also added a significant amount of technology to the program, including the DELMIA 3DX platform, allowing for a vertical integration of CATIA, the aerospace industry standard, throughout the curriculum.

Future plans include adding even more faculty to the program and development of an undergraduate (UG) certificate for Industry 4.0 and Automation that will further enhance our visibility and demand. In fact, the dean has agreed to provide a fourth manufacturing engineering faculty position for the program this year. That search was started this past spring but was delayed
due to COVID. In addition, the ISME department will provide a fifth manufacturing engineering position upon the next faculty retirement.

TABLE 1: Historical Summary of Program

| Fall <br> Semester | Enrollment | No. of <br> Graduates | Explanation |
| :---: | :---: | :---: | :--- |
| 2008 | 25 |  | 1 manufacturing engineering faculty; curriculum nearly identical <br> to IE with only manufacturing-specific courses |
| 2009 | 28 |  | Same |
| 2010 | 28 |  | Same |
| 2011 | 23 |  | Same |
| 2012 | 23 |  | 0 faculty |
| 2013 | 14 |  | 1 faculty |
| 2014 | 14 |  | 1 faculty |
| 2015 | 20 |  | 1.5 faculty; Dr. Madhavan returned from leave at half time |
| 2016 | 26 | 5 | 1.5 faculty |
| 2017 | 32 | 1 | 2 faculty; major overhaul of curriculum, including courses in |
| robotics and design |  |  |  |
| 2018 | 38 | 3 | 3 faculty; Dr. Boldsaikhan hired and robotics lab added |
| 2019 | 40 | 2 | Enrollment continues to increase |
| 2020 | 44 | 13 | Enrollment and number of graduates continue to increase |
| 2021 |  |  | UG certificate in Industry 4.0 and Automation to be created |

The revamped curriculum involves an exciting vertical integration of courses using concepts of data analytics, IoT, and 3D modeling. There are also plans to add an undergraduate certificate in Industry 4.0 and Automation next year, which will be a required part of the PDME curriculum and is expected to attract students from many other majors. The implemented program changes are summarized in Table 2.

TABLE 2: Revamped PDME Curriculum

| Category | Credit <br> Hours | Comments |
| :---: | :---: | :--- |
| General Ed | 7 | No change |
| Math/Science | 2 | Dropped: Calculus III |
| PDME <br> Program <br> Required <br> Added: Matlab Programming and Physics 1 and II labs <br> Tech. Elective$\quad 8 \quad$Dropped: Thermo, ME Design I, Numerical Methods, Descriptive <br> Analytics, Engineering Management, Selection of Materials for Design <br> and Manufacturing, and Application of Finite Element Methods |  |  |
|  | 12 | Added new courses: Kinematic and Dynamic Design, Robust Product <br> Design, Industrial Controls and Instrumentation, and Robotics |

Future Plans: In addition to the planned undergraduate certificate in Industry 4.0 and Automation, we have planned a number of important additional changes to the PDME program.

- Data Analytics: We will continue modernizing both our IE and PDME curricula through improved vertical integration of data analytics across both programs. The base course of this integration will be a new course in Data Acquisition that will be taught by Dr. Boldsaikhan (PDME Faculty). This course will cover the fundamentals of sensors, data collection, and the proper formatting of data to make it available for decision making in other classes. A laboratory for the development of internet-based data collection is currently being set up, and this course will have a network of machines to produce a digital twin of a real factory. The same lab facility will be used in many other ISME courses, but the data analytics integration cannot be completed without the PDME courses in data acquisition and control. In other words, industrial and manufacturing engineering are inextricably linked given the amount of data generated on the factory floor, and PDME faculty and courses are also needed to support our industrial engineering program.


FIGURE 2: Data analytics in IE and PDME courses. Courses above the dashed line are data acquisitionrelated courses, whereas courses below the dashed line represent the application of data analytics to decision-making domains. Courses with no numbers represent new courses that are planned to be developed, and courses with numbers represent existing courses that will be modified.

- Digital Engineering: The department has acquired industry standard software to incorporate engineering design and manufacturing concepts as well. All manufacturing faculty have been trained on the software, which will be vertically integrated across the curriculum in a manner similar to data analytics. Table 3 lists courses that will be modified, with new courses highlighted in blue. The new software tool, DELMIA bundled into CATIA and being offered as part of the 3DX platform, naturally appeals to the younger generation and will drive the
enrollment even higher. The software skills and automation skills that are targeted will help the local industry as well. Vertical integration means taking the concepts, tools, and artifacts from one class to another. An example of how this vertical integration will be achieved through case studies is given in Table 4.

TABLE 3: Vertical Integration of 3D Digital Engineering Software

| Course No. | Course Name |
| :--- | :--- |
| IME 222 | Product and assembly design |
| IME 258 | Process and assembly routings |
| IME 425 | Kinematics and dynamics in design |
| IME 561 | Applied Control Systems |
| IME 558 | Process design and optimization |
| IME 625 | Virtual product testing and optimization |
| IME 676 | Aircraft tooling and assembly |
| IME 761 | Robot Programming and Applications |

TABLE 4: Example Artifact: Design and Production of New Pylon for New Engine for CRJ-700

| Course | Example Topic - Primary 3DX Tool |
| :---: | :--- |
| IME 222 | Completion of own design with given parameters - 3DX Part/Assembly |
| IME 258 | Routing for pylon - 3DX Process Planning/MSD |
| IME 561 | Control of fire protection systems - 3DX Dymola |
| IME 761 | Robotic riveting/FSW of pylon parts - 3DX Robotics Programmer |
| IME 425 | Calculation of dynamic loads on pylon - 3DX Mechanism Design Exp |
| IME 558 | Programming for fore and aft beams - 3DX Mill-Tum Programming |
| IME 625 | Design for thermal and fatigue loads - 3DX Simulia Tools |
| IME 676 | Creation of assembly tooling for pylon - 3DX GD\&T/CMM/Ergo |

These changes will attract even more students by teaching new technologies, and developing and maintaining up-to-date labs, with a significantly increased number of well-qualified technicians to support them. The software labs will teach systems-level concepts and other concepts that are too expensive to maintain within hardware labs. The curriculum will also provide a hands-on experiential curriculum, with labs in every course. In fact, this new curriculum takes it a step further in making it more exploratory in that it will actually be a "course in every lab." All of the above courses provide a target to orient and motivate the explorations, and the LEARN BY DOING aspect will be ensured by having a term project in every course.

- Other Topics to be Added: At our Industry Advisory Board meeting last November, members suggested adding more content in IoT, cyber-physical systems, supervisory control and data acquisition, digital twinning, digital process twinning, robotics, product-life cycle management, and additive manufacturing. We have identified courses where we can add this additional content in some cases (namely cyber-physical systems, robotics and IoT). Looking
to the future, we are starting to explore the following topics that are critically important to smart manufacturing:
o Additive Manufacturing
o Collaborative Robotics
o Industrial IoT and Big Data
o Metrology (RE\&I)
o Operational Analytics-Real-Time Simulation and Control of Factories

3. RECOMMENDATION: Wichita State University, the College of Engineering, and the Department of Industrial, Systems, and Manufacturing Engineering all strongly recommend to continue the PDME program.
4. JUSTIFICATION: Given the importance of manufacturing to Wichita's economy - and the state's for that matter - we believe that is best for us to continue on the course of action that we have already started. As described above, we have invested heavily to completely revamp the PDME degree, which has already led to significant increases in both enrollment and impact. In fact, given the disruption that is occurring in manufacturing now, this program is more important than ever and is viewed as a critical element of the College of Engineering's efforts to support local industry. The described future improvements to the program will further strengthen its impact and vitality.

## HONORS BACCALAUREATE (Multi/Interdisciplinary Studies)


#### Abstract

The Honors Baccalaureate (HB) or Multi/Interdisciplinary Studies program is currently being evaluated as part of the KBOR strategic program review process. The Honors Baccalaureate (H.B.) is a rigorous interdisciplinary degree that incorporates two to three disciplines across at least two academic colleges and culminates in a thesis or final project. Students work closely with the Honors College dean and a faculty member in each of their chosen concentrations to select courses and complete experience-based learning requirements. For example, one HB student is pursuing concentrations in management and communication and a thesis project about how leadership pedagogy can better incorporate cultural competency. Graduates have gone on to graduate programs in biological sciences and linguistics as well as nonprofit work and management careers.


1. FACULTY PROFILE: There are no full-time faculty positions associated with this degree. Faculty in departments across campus mentor and teach Honors Baccalaureate students.
2. PROGRAM NARRATIVE: The Honors Baccalaureate is higher education for the $21^{\text {st }}$ century. It requires integrative and independent learning with the goal of preparing students for success in a rapidly changing workforce. Wichita State is the only university in this region to offer this degree.

The HB program has had low enrollment and few graduates over its first five years. Because HB students are actively involved in the design of their education including selecting courses and developing their thesis with faculty mentorship, the HB is an intensive degree. It was created to serve a small number of majors, but it has grown in the five years since it was first created in 2014. We have seen greatest success in recruiting and serving students who combine the arts and social science or research science and public health. This interdisciplinary study affords them the opportunity to learn intensively in a hands-on studio art or research environment and bring social questions to bear on their experience.

Total Cohen Honors College enrollment has grown in that time to approximately 750 students. The college infrastructure supports multiple honors academic programs, high-impact practices such as undergraduate research, and advising in addition to the HB majors.

TABLE 1: Program Summary

| Academic <br> Year | Enrollment | No. of <br> Graduates |
| :--- | :---: | :---: |
| $2016-2017$ | 2 | 1 |
| $2017-2018$ | 2 | 0 |
| $2018-2019$ | 5 | 1 |
| $2019-2020$ | 6 | 4 |
| $2020-2021$ | 9 | TBD |

3. RECOMMENDATION: Wichita State University and the Dorothy and Bill Cohen Honors College recommend to continue the Honor Baccalaureate.
4. FUTURE: To support future HB enrollment and graduation, we plan to work cooperatively with academic colleges to create more department Honors courses and experiences and with college advisors to promote greater awareness of Honors and the Honors Baccalaureate degree. The recent creation of an honors track in the Department of Public Health contributed to an increased number of Honors Baccalaureate students. New pathway programs such as the first-year research experience program also have increased student awareness of this degree and interest in research. We plan to continue to expand the FYRE program to serve additional disciplines.

Recent initiatives intended to increase enrollment and diversity in the Honors College also will support increased enrollment in the Honors Baccalaureate degree. We changed Honors College admissions criteria and are undertaking more holistic application review based on evaluation of an essay, resume, and academic record. We aim to invite and serve more first-generation, underrepresented minority, and transfer students.

Much of our Honors recruitment effort has targeted incoming first-year students. We've recruited students who are beyond their first year through relatively passive actions such as sending emails to Honors-eligible students or visiting fraternities or other social organizations. This year, our marketing team has increased messaging to current students through social media campaigns. In addition, we plan recruitment in community colleges emphasizing pathway programs such as the Summer Research Institute. Finally, we plan to invite faculty to nominate current students to Honors. This initiative is more about culture change and cultivating a growth mindset than about increasing enrollment. Even if a student does not decide to join Honors, they benefit from knowing it exists, that they are welcome there, and, more importantly, that a faculty member has seen their potential and ambition.

It is important to note, again, that there are no faculty appointed solely in the Honors College and no resources dedicated only to this interdisciplinary academic program. However, the intensive student mentorship requires additional time from faculty who are appointed in other departments and colleges. We will work with college deans to increase faculty recognition and use limited funds strategically to support faculty development or other incentives for HB and Honors-affiliated faculty.

## Action Plan Summary

- work cooperatively with academic colleges to create more department Honors courses and experiences
- work with other academic college advisors to promote greater awareness of Honors and the Honors Baccalaureate degree
- increase recruitment marketing to current students
- increase faculty recognition and use limited funds strategically to support faculty development or other incentives for HB and Honors-affiliated faculty


## PHILOSOPHY BACHELOR OF ARTS

The Philosophy Bachelor of Arts is currently being evaluated as part of the KBOR strategic review process. Based on the considerations provided below, Wichita State University, the Fairmount College of Liberal Arts and Sciences, and the Department of Philosophy all strongly recommend that the Philosophy Bachelor of Arts continue.

1. FACULTY PROFILE: The Department of Philosophy currently has $\underline{9}$ faculty dedicated solely to its BA program, down from 2016, when 13 faculty were dedicated solely to the program. All department faculty are teaching faculty, and the standard teaching load for tenure-track faculty is 3-3 per academic year. The department also has $\underline{1}$ additional, tenured faculty member who has recently been moved to .5 FTE to serve as director of the new Legal Education Advanced Degree (LEAD, " $3+3$ ") program between WSU and the KU School of Law.

The department offers a traditional philosophy BA emphasizing ethics, political philosophy, the history of philosophy, epistemology, and metaphysics. The program serves three kinds of majors: (1) students desiring to pursue graduate-level education in philosophy; (2) students planning to attend law school; and (3) students seeking a broad, well-rounded, liberal arts education in the humanities. We do not have formal tracks for these three groups. Instead, each student's curriculum is individually designed to meet his or her educational goals. For this reason, we place a great deal of emphasis on intensive, student-centered, high-quality advising. The philosophy major consists of a minimum of 27 credit hours of philosophy courses (a standard course being 3 credit hours), at least 15 of which must be from upper division courses. The Philosophy Department recommends various courses of study on its website and in its one-on-one advising with students, for instance a philosophy major with a pre-law focus, with a broad, humanities aim, with a history emphasis, etc.

The department also teaches a wide variety of general education courses. In fact, the vast majority of philosophy courses regularly taught at WSU, upwards of $80 \%$, provide general education humanities credit and educational benefits to students across the university.
2. PROGRAM NARRATIVE: The Philosophy Department plays a central role in WSU's mission, strategic plan, and goals. A foundational discipline in the liberal arts and sciences, philosophy promotes intellectual curiosity, fosters the examination of human experience, encourages an understanding of the natural and social world, and develops tools for life-long learning. The Philosophy Department at Wichita State University endorses these disciplinary ideals and has developed courses to meet them. The department emphasizes high quality teaching and learning. All courses in the department emphasize the development of critical reading, writing, and reasoning skills, which can be applied to all fields of inquiry and future career endeavors. The transferability of these skills is a common theme in departmental offerings.

The philosophy program was founded in 1895 by Fairmount College, the forerunner of Wichita State University. The department provides a rigorous major in philosophy, one of the core disciplines in a liberal arts education. Through its courses in Business Ethics, Engineering Ethics,

Computer Ethics, Bioethics, Moral Issues, Political Philosophy, and Ethical Theory, the department assists students in developing personal, civic, and professional responsibility. The department's several courses in Logic and Critical Reasoning provide students with intrinsically valuable basic skills which have very wide application across academic disciplines and any future career path. Most of these courses also provide required curricular components in, and contribute to the professional accreditation of, several degree programs outside of LAS: in the Barton School of Business, the College of Engineering, and the College of Health Professions.

In addition to those core courses and its regular course offerings in the Honors College, the department offers a variety of courses in Philosophy of Science, which complement courses offered in the physical and social sciences. It also offers a variety of courses that reflect and promote the evolving diversity of society, for instance Asian Philosophy, Philosophy of Feminism, Philosophy of Race, and Latin American Philosophy. The department is greatly expanding its offerings in these areas which reach out to our rapidly diversifying student body.

The Philosophy Department is extremely productive beyond the number of majors, especially in the areas of original research and student credit hour production. In addition to being extremely active in university governance, the Philosophy Department promotes the university's mission of making original contributions to knowledge. All of the department faculty are extremely active scholars dedicated to creating, expanding, applying, and preserving knowledge through their scholarly activities. Several members of the department are nationally and internationally recognized as authorities in their respective fields, one of whom holds a distinguished endowed chair. The department faculty are the recipients of internal and external grants, a national research prize from the American Philosophical Association, and have published books, chapters, and journal articles with some of the most prestigious publishers in the world, for instance Oxford University Press, Princeton University Press, and Cambridge University Press, drawing positive attention at the international level to the high-quality academic scholarship at WSU.

In addition to excellent research, the Philosophy Department produces a very large number of student credit hours (SCH), especially relative to other university programs. Despite a decrease in faculty, the department's credit hour production has shown sustained growth over a 10-year period. This growth has been sustained over the past five years, in particular, through strategic rearrangement of teaching assignments for individual full-time faculty and the judicious use of adjunct instructors to help teach our high credit service courses. The credit hour production (see Table 2 below), shows sustained 10-year success, as reflected here:

TABLE 1: 10-Year Philosophy Program SCH

| Year | Spring | Fall | Summer | Total |
| :--- | :--- | :--- | :--- | :--- |
| 2011 | 2,313 | 2,643 | 423 | 5,379 |
| 2012 | 2,641 | 2,814 | 495 | 5,950 |
| 2013 | 2,976 | 2,895 | 459 | 6,330 |
| 2014 | 2,883 | 2,712 | 444 | 6,039 |
| 2015 | 3,561 | 3,594 | 465 | 7,620 |
| 2016 | 2,927 | 3,678 | 420 | 7,025 |
| 2017 | 3,519 | 3,528 | 525 | 7,572 |


| 2018 | 3,289 | 3,333 | 708 | 7,330 |
| :--- | :--- | :--- | :--- | :--- |
| 2019 | 3,356 | 3,397 | 888 | 7,641 |
| 2020 | 2,991 | 3,417 | 717 | 7,125 |


| 10-Year <br> Total | 30,456 | 32,011 | 5,544 | 68,011 |
| :--- | :--- | :--- | :--- | :--- |
| 10-Year <br> Average | 3,046 | 3,201 | 554 | 6,801 |

Given the relatively small number of full-time faculty in the department, and the 3-3 teaching load without the assistance of graduate teaching assistants, the Philosophy Department produces credit hours at a rate per faculty (FTE) that is roughly twice the university average, based on the median SCH per faculty in the most recent data available from AY 2019-2020. The relative rankings are as follows:

| Philosophy: | 429 SCH |
| :--- | :--- |
| All Humanities: | 243 SCH |
| All LAS: | 190 SCH |
| All WSU: | 189 SCH |

(For details, see p. 2 of the APS reports attached as Appendices 1-4 at the end of this document.)
These data illustrate that the philosophy program is one of the most cost-effective programs in the university in terms of credit hour production per faculty, generating credit hours in required courses for multiple colleges with high international enrollment, as mentioned above. This conclusion - that the philosophy program is one of the most cost-effective programs at WSU in terms of credit hour production per faculty - could be made even more pronounced by comparing the average faculty salaries across LAS divisions and across the various colleges at WSU.

Recruitment and retention efforts were further impacted by the department's 2.5-year displacement (from June 2016 to December 2018) from its traditional departmental home in Fiske Hall for retrofitting improvements that were estimated to take at most one year. As the oldest building on campus, Fiske Hall is a building whose collegial environment and inviting department lounge has traditionally provided a hub for student recruitment, through faculty discussions with students outside of class. However, the 10 -year average is 22.7 majors and 6.2 graduates per year.

Overall, the quality of the philosophy program is excellent. A clear indication of the high quality of the philosophy major is that the program is attracting and retaining some of the best academically prepared students on campus. This is demonstrated by the fact that every philosophy major who has applied to law school or a graduate program over the past 20 years, at least, has been admitted to at least one program of their choosing. Not only has the department sustained this $100 \%$ placement rate for post-graduate placement, but our students have gone on to some of the finest post-graduate programs in the world: Harvard, Cornell, MIT, Claremont,

UC Berkeley, and St. Andrews, to name just a few. One simply does not get admitted to such programs unless one has had an excellent undergraduate education.

The excellent quality of the philosophy program at WSU has also been independently indicated by a national publication devoted to university rankings. The publication Great Value Colleges describes the WSU philosophy program as follows:

Wichita State University is one of the nation's best colleges for philosophy study at the undergraduate level. The university's Department of Philosophy offers both a major and minor in philosophy as well as a pre-law focus. Courses offered through the department include Science and the Modern World, Meaning of Philosophy, Ancient Greek Philosophy, and Introductory Logic, for instance. An active Philosophy Society has also been established to promote interest in the academic discipline and is open to all students. Wichita State has been accredited by the Higher Learning Commission to award the bachelor's in philosophy degree. It has also been ranked among the country's top national universities by U.S. News \& World Report.
(For details, see: https://www.greatvaluecolleges.net/rankings/philosophy/.)
Since all of the Philosophy Department's courses emphasize the development of critical reading, writing, and reasoning skills, which can be applied to every field of inquiry and any future career endeavor, current and future employment demands for WSU philosophy graduates are many and various. Roughly $50 \%$ of WSU's philosophy graduates attend post-graduate programs, philosophy law schools or philosophy graduate programs. These students eventually pursue careers in law or academia. Other philosophy graduates who completed their undergraduate education with a philosophy major are employed in various professional capacities, wherever there is a demand for a broad, liberal arts education and strong critical reading, writing, and reasoning skills: business, marketing, consulting, publishing, and the tech industry, to name just a few successful career paths.

The department's goal of steadily increasing its majors and graduates in coming years while maintaining a high-quality major, will need to be carefully balanced against future staffing needs and the needs of our rapidly diversifying students.
3. RECOMMENDATION: Wichita State University, the Fairmount College of Liberal Arts and Sciences, and the Department of Philosophy all strongly recommend that the Philosophy Bachelor of Arts program continue.
4. JUSTIFICATION: The overall quality of the Philosophy Bachelor of Arts program is excellent. The department displays a unified educational mission in its sustained track record of successful graduates and its phenomenally high rate of credit hour production per faculty, a rate that is twice the university average. The department's course offerings in Business Ethics, Engineering Ethics, Computer Ethics, Bioethics, Logic, and Critical Reasoning provide required curricular components in, and contribute to the professional accreditation of, several degree programs outside of LAS: in the Barton School of Business, the College of Engineering, and the College of Health Professions.

The department's goal is to steadily increase the number of majors and graduates while maintaining a top-quality academic major. It has a well-conceived plan for recruitment and retention of students to achieve this goal, one that includes (but is not limited to): (1) the recent appointment of a full-time Undergraduate Coordinator who will implement a data-driven recruitment and retention strategy; (2) making significant course contributions to WSU’s newlyimplemented First Year Seminar, which provides a prime recruitment opportunity for the philosophy program; (3) working more closely with LAS advisors to communicate the philosophy major to incoming students, most of whom are unfamiliar with the academic discipline of philosophy as they enter college; (4) working closely with the Legal Education Advanced Degree (LEAD) program between WSU and the KU School of Law; and (5) offering a variety of courses that reflect and promote the evolving diversity of society, something that serves the goals of university and will help to recruit majors from our rapidly diversifying student body. The Department of Philosophy will continue to assist students in developing personal, civic, and professional responsibility, to prepare them for a wide variety of successful careers paths, and to serve as an essential element in several degree programs in multiple colleges across the university.

## 5. ATTACHMENTS

Appendix 1: Philosophy program in AY 2019-2020 (3 pages)
Appendix 2: All Humanities programs in AY 2019-2020 (3 pages)
Appendix 3: All LAS programs in AY 2019-2020 (3 pages)
Appendix 4: All University programs in AY 2019-2020 (3 pages)


[^0]:    Program 5: BS/BA in Medical Laboratory Sciences (Clinical Lab Science/Med Technology)

