Comparison to Peer Institutions

(an Appendix Report to the Mathematical Sciences 2017-18 Program Review)

In 2017, a campus administration/faculty task force identified a list of peer institutions for the IPFW campus, having similar characteristics such as enrollment size, program emphasis, and geographic/demographic data.

The following list includes all the 2017 Peer Institutions and IPFW, stating:

- Name of Mathematics-related department and College-level affiliation
- Enrollments, based on the IPFW report using IPEDS Data for Fall 2015 12-month Student FTE
- Number of mathematics full-time faculty and (assistant/assoc./full) professor titles (approximate counts based on a 2017 search of departmental web sites. Does not include part-time, adjunct, visiting, or emeritus faculty)
- Ratio: Enrollments per full-time math faculty
- Names of degree programs in mathematical sciences areas, with "options" within majors as indicated (in parentheses).

University of Southern Maine; Portland, ME

Dept. of Mathematics and Statistics, College of Science, Technology, and Health
Enrollment 6648. Full-time math faculty: 10, including 5 professors. Ratio 665
4-year degrees: B.A. Mathematics (pure, applied, statistics, secondary education)
Graduate degrees: M.S. in Statistics, Certificate in Data Science, Certificate in Actuarial Science

University of Colorado – Colorado Springs; Colorado Springs, CO

Dept. of Mathematics, College of Letters, Arts, & Sciences
Enrollment 9791. Full-time math faculty: 23, including 12 professors. Ratio 426
4-year degrees: B.S. Mathematics (pure, applied, statistics, teaching)
Graduate degrees: M.S. in Applied Mathematics, M.Sc. and Ph.D. in Applied Science (math option)

Dixie State University; St. George, UT

Mathematics Department, College of Science & Technology
Enrollment 6433. Full-time math faculty: 13, including 9 professors. Ratio 495
4-year degrees: B.S. Mathematics, B.S. Mathematics Education
Graduate degrees: none

Farmingdale State College, SUNY; Farmingdale, NY

Department of Mathematics, School of Arts & Sciences
Enrollment 7518. Full-time math faculty: 12, all 12 professors. Ratio 627
4-year degrees: B.S. in Applied Mathematics
Graduate degrees: none

Colorado State University – Pueblo; Pueblo, CO

Mathematics Program, Department of Mathematics & Physics, College of Science and Mathematics
Enrollment 6270. Full-time math faculty: 17, including 15 professors. Ratio 369
4-year degrees: B.A. Mathematics, B.S. Mathematics
Graduate degrees: none

Columbus State University; Columbus, GA

Dept. of Mathematics, College of Letters & Sciences
Enrollment 6901. Full-time math faculty: 17, including 15 professors. Ratio 406
4-year degrees: B.A. Mathematics, B.S. Mathematics (pure, applied, secondary education)
Graduate degrees: M.A. Teaching, M.Ed. Secondary Mathematics Education

Indiana University South Bend; South Bend, IN

Dept. of Mathematical Sciences, College of Liberal Arts & Sciences
Enrollment 5215. Full-time math faculty: 14, including 8 professors. Ratio 373
4-year degrees: B.A. Mathematics, B.S. Mathematics (pure, applied), B.S. Actuarial Science
Graduate degrees: M.S. in Applied Math and Computer Science

University of Southern Indiana; Evansville, IN

Department of Mathematics, Pott College of Science, Engineering, & Education
Enrollment 8732. Full-time math faculty: 30, including 12 professors. Ratio 291
4-year degrees: B.S. Mathematics (pure, actuarial), B.S. Math Teaching
Graduate degrees: none (some upper level math courses offered)

Purdue University Northwest; Hammond, IN, and Westville, IN

Department of Mathematics, Statistics, and Computer Sciences, College of Engineering & Sciences
Enrollment 7115. Full-time math faculty: 25, including 22 professors. Ratio 285
4-year degrees: B.S. Mathematics, B.S. Secondary Teaching of Mathematics, B.S. Computer Science
Graduate degrees: M.S. Mathematics, M.S. Computer Science

Indiana University - Purdue University Fort Wayne

Department of Mathematical Sciences, College of Arts & Sciences
Enrollment 8989. Full-time math faculty: 26, including 19 professors. Ratio 346
≤ 2016 4-year degrees: B.S. Mathematics (pure, business, computing, statistics, actuarial, teaching)
> 2016 4-year degrees: B.S. Mathematics (pure, teaching), B.S. Actuarial Science
≥ 2018 4-year degrees: B.S. Data Science and Applied Statistics
Graduate degrees: M.S. in mathematics, M.A.T. (currently inactive)

Comments in general:

- Some departments, like IPFW, are within a college of liberal arts (including science); others are in a more science-oriented college. The position of DMS in COAS and the IPFW college structure in general were recently reviewed – see the 2017 reports on Academic Reorganization (Appendix E.2, Documents 7,8.).
- The department name varies from place to place. There does not appear to be any reason to change the name of the IPFW Department of Mathematical Sciences, it adequately reflects the scope of our research and educational programs.
- A list of peer institutions based on characteristics of their mathematical sciences departments would be different and more useful, but no such list has been developed yet.
- The 2008 Program Review (Appendix D.2, Document 9.) assembled a list of Peer Institutions based on the contemporaneous IPFW Strategic Plan. The 2008 and 2017 lists have no members in common.

Comments on graduate programs:

- The M.S. curriculum at PNW is similar to the "pure mathematics" option in the IPFW graduate program (which is being revised as described in the Program Review Subsection 2.f). The enrollment at PNW is also comparable to IPFW (see Chart 2.i. in the Program Review Subsection 2.f).
- The Colorado M.S. program appears to be oriented to Ph.D. preparation.
- At IU South Bend, there are three paths to the degree: thesis option (24 credits coursework + 6 credits thesis), project option (24 credits coursework + 3 credits project), and coursework option (30 credits coursework). The degree appears to be heavy on computer science. The list of recommended applied math courses includes much statistics, some math of finance, modeling, and a couple of analysis courses (one real, one complex).

Other Comments on the Peer Institutions List:

- The Peer Institutions list was also used by IPFW Faculty leaders to prepare a report on campus administrative staffing and budgeting.
  http://users.pfw.edu/coffmana/PR2017/ReportonAdministrativeStaffingandBudgetingNov2017.pdf
- Supporting data:
  http://users.pfw.edu/coffmana/PR2017/AdminStudyIPEDSdata.xlsx

From:	IPFW Announcements
To:	IPFW Announcements
Subject:	Peer Institutions Selected
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The proper identification and selection of peer institutions are important parts of strategic planning and benchmarking. The group of peers identified as part of the 2008 strategic planning process were appropriate at the time, but no longer reflect the evolving composition of our campus. As a result, the Chancellors and Vice Chancellors have approved a new listing of peer institutions for use by Purdue University Fort Wayne.

The development of our peer institution list started in August 2017, when the Office of Institutional Research gathered data from Integrated Postsecondary Data System (IPEDS) in order to create a new peer institution list. Student data were derived from the annually administrated IPEDS Fall Enrollment Survey, Degree Completions Survey, Institutional Characteristics Survey, Financial Aid Survey, and the 150% Time Graduation Rate Survey.

From the initial pool of 644 institutions, a faculty/staff committee consisting of Jeff Malanson (associate professor of history), Andrew Downs (associate professor of political science), Cynthia Springer (executive director, human resources and the office of institutional equity), Irah Modry-Caron (director of institutional research), and Kirk Tolliver (data analytics director, financial and administrative affairs), met to further refine selection criteria. As a result of their discussions, criteria for inclusion included:

- Public, degree-granting, 4-year and above institutions that receive Title IV funding
- Total enrollment between 7,000 and 13,000
- Institutions located in metropolitan areas
- At least 10% of degrees conferred in STEM areas
- Fewer than 25% of student population living on campus

Criteria for exclusion were:

- Doctoral/research institutions
- Institutions conferring medical degrees
- More than 25% of degrees conferred in health sciences

Although not meeting all of the inclusion criteria, three Indiana institutions were included on the list in order to be representative of both regional and national peers. Based on these factors, the following peers were selected:

- University of Southern Maine; Portland, ME
- University of Colorado – Colorado Springs; Colorado Springs, CO
- Dixie State University; St. George, UT
- Farmingdale State College, SUNY; Farmingdale, NY
- Colorado State University – Pueblo; Pueblo, CO
- Columbus State University; Columbus, GA
- Indiana University South Bend; South Bend, IN
- University of Southern Indiana; Evansville, IN
- Purdue University Northwest; Hammond, IN, and Westville, IN