

FORT WAYNE SENATE AGENDA  
MONDAY  
March 16, 2015  
12:00 P.M., KT G46

1. Call to order
2. Approval of the minutes of February 9, 2015
3. Acceptance of the agenda – K. Pollock
4. Reports of the Speakers of the Faculties
  - a. Indiana University – J. Badia
  - b. Purdue University – P. Dragnev
5. Report of the Presiding Officer – A. Downs
6. Special business of the day –Memorial Resolution (Senate Reference No. 14-19) – L. Beineke
7. Committee reports requiring action
  - a. Budgetary Affairs Subcommittee (Senate Document SD 14-25) – C. Gurgur
  - b. Faculty Affairs Committee (Senate Document SD 14-26) – N. Borbieva
8. New business
9. Committee reports “for information only”
  - a. Executive Committee (Senate Reference No. 14-20) – K. Pollock
  - b. Curriculum Review Subcommittee (Senate Reference No. 14-21) – K. Pollock
  - c. Graduate Subcommittee (Senate Reference No. 14-22) – M. Sharma
  - d. Curriculum Review Subcommittee (Senate Reference No. 14-23) – K. Pollock
10. The general good and welfare of the University
11. Adjournment\*

\*The meeting will recess or adjourn by 1:15 p.m.

Approving

J. Badia  
J. Casazza  
A. Downs  
P. Dragnev  
K. Pollock, Chair

Non Voting

J. Malanson

Absent

A. Schwab  
N. Younis

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Attachments:

- “Memorial Resolution –Maynard J. Mansfield” (SR No. 14-19)
- “Resolution on the IPFW budgeting process” (SD 14-25)
- “CEPP Policy Handbook revision” (SD 14-26)
- “Items under Consideration by Senate Committees and Subcommittees” (SR No. 14-20)
- “Bachelor of Science in Dental Technology” (SR No. 14-21) see website for reference (35 pages)
- “Slight modification of the core curriculum of the Master of Public Management (MPM) degree  
(SR No. 14-22)
- “Concentration in Genetics, Cellular, and Molecular Biology” (SR No. 14-23)

## **In Memoriam**

### **Maynard J. Mansfield**

**January 28, 1930 – February 8, 2015**

As one of the founding faculty of IPFW, Maynard Mansfield was a person of noteworthy achievements and an exceptional inspiration to others.

After earning his Bachelor of Arts degree from Marietta College in Ohio in 1952, he continued his education at Purdue University. He earned his Master's degree in 1954 and his Ph. D. in 1956. As will be noted later, that was not the last of his Purdue degrees however. After remaining another year at Purdue as an Instructor, he joined the faculty of Washington and Jefferson College, where he taught from 1957 to 1963, being promoted to Associate Professor after just three years. In 1963 he returned to Indiana, this time as a Purdue professor at the Fort Wayne extension, in anticipation of leading mathematics in the move to the new campus the following year.

Throughout the rest of Maynard's career, he was a leader on this campus, being promoted to Professor in 1965. From 1964 to 1988, he served valiantly as Chair of the Department of Mathematical Sciences. He did have two years off while serving as Acting Dean of Science and Humanities. During his tenure, the department grew from four to close to its present size of 25. When the Department of Computer Science was created, Maynard saw a challenging situation where he was needed more than in the mathematics department. Two years later, he became Dean of the School of Engineering, Technology, and Computer Science, a position he held until his retirement in 1994.

Maynard's professional service went beyond Purdue and IPFW. For a number of years, he served as Secretary of the Indiana Section of the Mathematical Association of America, and later served a term on the Board of Governors of the national organization. In addition to his papers on topology, he was the author of four mathematics textbooks and co-author of two others.

Those are basic facts of Prof. Mansfield's career, with one significant omission. In 1998, Maynard received one more degree from Purdue: Honorary Doctor of Engineering. The following is taken from the nomination statement for that honor:

“Maynard J. Mansfield is a man of influence and achievement. His years at IPFW, as chair of mathematics, chair of computer science, and dean of the School of Engineering and Technology, were characterized by much growth and progress. Mansfield served as an inspirational catalyst for such development.”

In addition, here are some excerpts from quotations in that statement of nomination from former members of the math department:

“Maynard provided the intelligent enthusiasm that was essential. He was known to be thoughtful, analytical, and principled.”

“Mansfield’s attitude of encouragement and support fostered excellence not only among his faculty, but across the campus.”

“His contributions to IPFW’s academic mission, faculty governance, and administration are legendary.”

His thesis in point-set topology was entitled *Some Generalizations Of Full Normality*. While the dissertation itself was in abstract mathematics, its title might be used as a tribute to Maynard’s career here at IPFW. “Full normality” can be considered a metaphor for the three normal areas of professorial activity: teaching, creative endeavor, and service. Maynard was a specific instance, an example extended to the many faculty who felt his impact, people inspired to be complete educators, in both creating and sharing knowledge.

During his lifetime, Maynard had many interests outside mathematics, from playing saxophone in a dance band while young to playing many rounds of golf in retirement. In fact, he even achieved the golfer’s goal of a hole-in-one. He was a life-long amateur radio enthusiast, right up to the days before his terminal illness, less than two months prior to his death. Maynard also became an avid producer and performer of music generated via his computer. As a pilot, he frequently flew his Piper Cherokee to West Lafayette to meetings. He was even prouder to be able to use his plane as an Angel Flight pilot, helping families with insufficient means to get to medical facilities.

Thus, Maynard Mansfield will be long remembered for leading and helping others in very many ways. Each year his dedication to mathematics is recalled with the conferral of an award in his name to an outstanding graduating senior. Later this year, this will be joined by the Maynard J. Mansfield Scholarship, established in his memory.

Survivors include his wife Sharon K. Slack, IPFW Professor Emerita of Chemistry; one daughter, Nancy Curtis; and seven grandchildren. One daughter, Pamela Kearley, preceded him in death.

MEMORANDUM

TO: Fort Wayne Senate  
FROM: Budgetary Affairs Subcommittee  
DATE: 25 February 2015  
SUBJECT: Resolution on the IPFW Budgeting Process  
DISPOSITION: Request the Senate endorse the following resolution

WHEREAS, IPFW has made a conscious and concerted effort to rationalize the university budget; to engage in a transparent, bottom-up budgeting process; and to include all monies that are annually spent by each unit in the budget; and

WHEREAS, not all units, most notably Athletics, are currently able to be held to the standard of university resources being allocated in rationally and transparently established budgets based upon a realistic view of annual expenses; and

WHEREAS, Vice Chancellor for Financial and Administrative Affairs David Wesse, at a town hall meeting on 25 February 2015, emphasized the importance of the university budget representing a clear statement about how IPFW chooses to allocate its available dollars;

BE IT RESOLVED, that the Senate strongly recommends that all units of the university (including Athletics) be required to submit rational and transparent budgets that clearly identify university funds being allocated for all expenses related to that unit, and that all units be held accountable for their spending within the parameters of their approved budget; and

BE IT FURTHER RESOLVED, that the administration provides the information necessary for each unit to identify the sources of revenue that will allow them to produce rational and transparent budgets.

Approving

Susan Anderson  
Noor Borbieva  
Cigdem Gurgur  
Peter Iadicola  
Steven Hanke  
Jeffrey Malanson  
Peter Ng  
Deborah Poling

Not Approving

Abstaining

Not Voting

MEMORANDUM

TO: Fort Wayne Senate  
FROM: Faculty Affairs Committee  
DATE: February 23, 2015  
SUBJECT: CEPP Policy Handbook revision

DISPOSITION: Request a Senate vote on Section V of the attached document.

WHEREAS, the College of Education and Public Policy has revised their handbook, including sections on Promotion and Tenure;

BE IT RESOLVED, that the sections on promotion and tenure in the new handbook be accepted by the Senate.

Approve

Noor Borbieva  
Rachel Rayburn  
Brenda Valliere  
Lesa Rae Vartanian

Absent/did not vote

Ben Dattilo  
Cigdem Gurgur

Non-voting

Carol Sternberger

## IV. Faculty

- A. **Voting Faculty:** Voting faculty members are defined in the *Constitution of the Faculty of Indiana University-Purdue University Fort Wayne* (<http://new.ipfw.edu/dotAsset/185304.pdf>).
- B. **Evaluation of Tenured and Non-Tenured Faculty:** Each faculty member is required to submit an annual report to the chair of her/his department as well as the Dean. Guidelines and timelines are established by each department. Third-year reviews are required for all tenure-track faculty members in the CEPP in conjunction with applicable departmental guidelines and timelines.
- C. **CEPP Faculty Meetings:** The Dean will schedule college-level faculty meetings from time to time as needed. In addition, the chair of the Leadership Committee can schedule meetings at the request of a simple majority of the members.
- D. **Amendments to the CEPP Policy Handbook:** The *CEPP Policy Handbook* may be amended by a two-thirds majority vote of the CEPP voting faculty.
- E. **Service in the Fort Wayne Senate:** Voting faculty in each of the three departments will elect one representative to serve in the Fort Wayne Senate. Additional representatives, if needed based upon the allocation formula utilized by the Senate, will be chosen at-large in an election coordinated by the Leadership Committee. Elected senators will serve three-year terms.

## V. Promotion and Tenure

- A. Each department will follow its own guidelines when it pertains to promotion and tenure issues.
- B. The assessment points for promotion and tenure cases are as follows:
  - 1. Department promotion and tenure committee
  - 2. Department chair
  - 3. CEPP promotion and tenure committee
  - 4. CEPP Dean
  - 5. Campus promotion and tenure subcommittee
  - 6. Vice Chancellor for Academic Affairs
  - 7. Chancellor

## 8. Indiana University Board of Trustees

- C. The CEPP promotion and tenure committee shall consist of two elected tenured members from each department. The majority of the CEPP promotion and tenure committee must hold at least the rank that the candidates in question are seeking. Thus, if one candidate in a given year is seeking promotion to professor, four of the six committee members must be professors. The ratio requirements of the CEPP promotion and tenure committee will be communicated to department chairs in compliance with the VCAA's P&T timetable by the Dean's office so that faculty members in each department will know this information in advance of selecting their representatives on the committee. Departmental elections for service on the CEPP promotion and tenure committee must be conducted in compliance with the VCAA's P&T timetable and the membership list must be forwarded to the Dean. The recommendation of the committee members is to be forwarded by the elected chair of the committee to the Dean and to the relevant department chair in compliance with the VCAA's P&T timetable.

The initial meeting of the CEPP promotion and tenure committee will be coordinated by the Dean's office.

- D. The Dean of the CEPP will forward her/his recommendation to the campus promotion and tenure subcommittee in compliance with the VCAA's P&T timetable.

## VI. Accreditation

- A. **Unit:** Programs and/or departments within the CEPP may affiliate for the purpose of acquiring or maintaining accreditation.
- B. **Faculty:** Faculty members within an accreditation unit will be responsible for addressing all accreditation requirements.



TO: The Senate  
FROM: Executive Committee  
DATE: 27 February 2015  
SUBJ: Items under Consideration by Senate Committees and Subcommittees

The Executive Committee has asked Senate committee and subcommittee chairs to report items under discussion in the various committees. The following is a compilation of what was submitted.

**Educational Policy Committee**

Cigdem Gurgur, Chair

1. The committee concluded the investigation on *includED* Digital Textbook/Course Material Project. The resolution was presented at the Feb. 9 Senate meeting and adopted.
2. The committee has been working on SD 12-12, Investigation of Dual Credit Programs, collaboratively with University Resources Policy Committee (URPC). A task force has been created, involving chairs of EPC and URPC, C.Gurgur and M. Wolf, with selected members from both Senate committees: P. Dragnev, P. Iadicola, A. Livschiz. The chair of the task force is Y. Zubovic, EPC chair in the previous academic year.
3. The committee discussed “Universal Class Scheduling Possibility with No Conflicts – M/W Mirroring T/R Afternoons” agenda item. A resolution was passed and is expected to be presented at the March 16 Senate meeting.
4. The committee has been working on “Recent SAT score changes, 3 levels of impact, including admission standards for IPFW” item.

**Subcommittees of the Educational Policy Committee:**

***Calendar Subcommittee***

Erik Ohlander, Chair

1. No reports at this time.

***Continuing Education Advisory Subcommittee***

Max Montesino, Chair

1. No reports at this time.

***Curriculum Review Subcommittee***

Laurie Corbin, Chair

1. A proposal for a Concentration in Genetics, Cellular, and Molecular Biology has cleared remonstrance and will be considered by the subcommittee.
2. Four minors in Accounting, Finance, Management, and Marketing were considered by the subcommittee: the two minors in Management and Marketing were revised and all four minors will again be considered by the subcommittee when these two have cleared remonstrance.

***General Education Subcommittee***

Andrew Downs, Chair

1. Providing feedback on the individual course assessments.
2. Assessing how well the General Education Program (GEP) achieved its purpose.
3. Identifying areas for improvement (in individual courses and in the GEP), and
4. Developing a plan for assisting faculty and departments with assessment of general education courses.

***Graduate Subcommittee***

Maneesh Sharma, Chair

1. Deliberating the FNP program.
2. Approved the slight modification of the core curriculum of the Master of Public Management (MPM) degree.

***Honors Program Council***

Suzanne LaVere, Chair

1. The Honors Program Council is continuing to review Honors course proposals and student scholarship applications. The Council is also preparing for the Honors Program Showcase, which will be held on April 10.

***International Education Advisory Subcommittee***

John Niser, Chair

1. No report was received.

***Faculty Affairs Committee***

Noor Borbieva, Chair

1. The Committee has approved and revised CEPP Handbook and will bring a section of the handbook to the senate for approval.
2. The Committee continues to monitor the progress of the Promotion and Tenure Task Force regarding their review of IPFW P&T procedure documents and changes to Purdue –WL’s P&T procedure documents.
3. The Committee is reviewing the Upward Feedback process (described in SD 92-13, SD 97-23, and SD 09-7) and developing a resolution that would standardize the process across campus.
4. Together with FAC’s across the Purdue system, the IPFW FAC is evaluating current policy on CL’s and LTL’s and examining the feasibility of giving CL’s the possibility to apply for promotion to Assistant Professor.

***Professional Development Subcommittee***

Andrew Downs, Chair

1. The Professional Development Subcommittee (PDS) finished reviewing and recommending summer grants and sabbaticals in the fall. This spring, it has provided feedback to summer grant applicants who requested feedback and its considering improvements to the summer grant process.

***Indiana University Committee on Institutional Affairs***

Janet Badia, Chair

1. The CIA held elections for the IU Board of Reviews, which were finalized in December.

***Nominations and Elections Committee***

Lesa Vartanian, Chair

1. We brought to the floor and passed the resolution for online voting (or the ability to determine how we will conduct elections).

***Purdue University Committee on Institutional Affairs***

Peter Dragnev, Chair

1. No reports at this time.

***Student Affairs Committee***

Christine Erickson, Chair

1. Discussing how well (or not) students are prepared to take university-level courses and what we, as a university and as a faculty, need to do to help those who are struggling.
2. Discussing admissions requirements.

**Subcommittee of the Student Affairs Committee**

*Athletics, Subcommittee on*

Robert Vandell, Chair

1. We have been looking into what SCOA is supposed to be doing.

**University Resources Policy Committee**

Mike Wolf, Chair

1. Development of weather closure policy.
2. Library Open Access Policy.
3. Review of USAP and UBC information.
4. Functional roles of Subcommittee on Advancement.
5. Key policy.

**Subcommittees of the University Resources Policy Committee:**

*Academic Computing and Information Technology Advisory Subcommittee*

Andres Montenegro, Chair

1. The Academic Computing and Information Technology Advisory Subcommittee (ACITAS) has no ongoing document under deliberation at this time; however, our committee is conducting a very important discussion about the future of our Learning Management System. At the ACITAS meeting today we discussed the possibility of Purdue University moving to the Canvas Learning Management system and away from Blackboard Learn.

They are conducting a pilot right now. It is possible, maybe likely, that if they chose to move to Canvas we will need to move as well. We do not have any faculty in the pilot but have the opportunity to get a “sandbox” so we can get into a sample class and see how it works.

ACITAS resolved:

- To encourage IPFW faculty get involved in the Canvas pilot.
- Inform the University Senate about the relevance of the discussion.
- Suggest a possible survey to the Vice Chancellor of Academic Affairs, consulting our academic community about the effectiveness of the two LMS.
- Encourage the members of ACITAS to request sandboxes of the Canvas pilot.
- I anticipate an incoming meeting of ACITAS at the end of March, to describe a much clear picture of the process.

*Budgetary Affairs Subcommittee*

Jeffrey Malanson, Chair

1. Developing a better understanding of the university budget and how it currently functions.
2. Considering the current complexities and realities of the Athletics budget.
3. Faculty salaries and raises.

*Library Subcommittee*

Suzanne LaVere, Chair

1. The Senate Library Subcommittee has continued working on drafting an Open Access Policy, and an open forum for faculty to learn more and ask questions was held in November. The policy has now been approved by URPC, and will move to the full Senate for a vote. The Subcommittee also will be evaluating Special Needs Grants, which will be due on March 15.

TO: Fort Wayne Senate

FROM: Brian L. Fife, Chair, Department of Public Policy

DATE: December 8, 2014

SUBJ: Slight modification of the core curriculum of the Master of Public Management (MPM) degree

WHEREAS, the MPM degree was initially created over a decade ago and no capstone course was required for accreditation by the Network of Schools of Public Policy, Affairs, and Administration (NASPAA); and

WHEREAS, the faculty members in the Department of Public Policy may seek initial accreditation of the MPM degree by NASPAA;

BE IT RESOLVED, that the MPM core curriculum be revised to add PPOL V600 (Capstone in Public and Environmental Affairs) and the degree will require one less elective and remain 39 credit hours.

## Current MPM Degree Requirements

**Core requirements (18 credit hours):** PPOL V502 (Public Management); PPOL V506 (Statistical Analysis for Effective Decision Making); PPOL V509 (Administrative Ethics in the Public Sector); PPOL V560 (Public Finance and Budgeting); PPOL V562 (Public Program Evaluation); and PPOL V566 (Executive Leadership).

**Concentration requirements (12 credit hours):** Students select Health Systems Administration and Policy or Public Administration and Policy.

Health Systems Administration and Policy: PPOL H517 (Managerial Epidemiology); PPOL V543 (Health Systems Management); PPOL V545 (The U.S. Healthcare System); and PPOL V546 (Health Services Utilization).

Public Administration and Policy: PPOL V504 (Public Organizations); PPOL V512 (Public Policy Process); PPOL V539 (Management Science for Public Affairs); and PPOL V540 (Law and Public Affairs).

**Experiential Component (3 credit hours):** Each MPM student must complete the 3 credit hour experiential component. Students with at least one year of full-time management and/or policy experience can apply for an exemption. Students who do not meet this criterion must take PPOL V585 (Practicum in Public Affairs) for 3 credit hours.

**Electives (6 credit hours):** PPOL courses may be completed to satisfy elective requirements. Other IPFW graduate courses must be approved by the director of graduate studies.

Total=39 credit hours

## Proposed MPM Degree Requirements (Effective Fall 2015)

**Core requirements (21 credit hours):** PPOL V502 (Public Management); PPOL V506 (Statistical Analysis for Effective Decision Making); PPOL V509 (Administrative Ethics in the Public Sector); PPOL V560 (Public Finance and Budgeting); PPOL V562 (Public Program Evaluation); PPOL V566 (Executive Leadership); and PPOL V600 (Capstone in Public and Environmental Affairs).

**Concentration requirements (12 credit hours):** Students select Health Systems Administration and Policy or Public Administration and Policy.

Health Systems Administration and Policy: PPOL H517 (Managerial Epidemiology); PPOL V543 (Health Systems Management); PPOL V545 (The U.S. Healthcare System); and PPOL V546 (Health Services Utilization).

Public Administration and Policy: PPOL V504 (Public Organizations); PPOL V512 (Public Policy Process); PPOL V539 (Management Science for Public Affairs); and PPOL V540 (Law and Public Affairs).

**Experiential Component (3 credit hours):** Each MPM student must complete the 3 credit hour experiential component. Students with at least one year of full-time management and/or policy experience can apply for an exemption. Students who do not meet this criterion must take PPOL V585 (Practicum in Public Affairs) for 3 credit hours.

**Elective (3 credit hours):** PPOL courses may be completed to satisfy the elective requirement. Other IPFW graduate courses must be approved by the director of graduate studies.

Total=39 credit hours

MEMORANDUM

TO: Fort Wayne Senate  
FROM: Laurie Corbin, Chair  
Curriculum Review Subcommittee  
DATE: 26 February 2015  
SUBJ: Concentration in Genetics, Cellular, and Molecular Biology

The Curriculum Review Subcommittee voted on February 25 to approve the attached proposal for the Concentration in Genetics, Cellular, and Molecular Biology. The committee finds that the proposed degree requires no Senate review.

Approving:	Not Approving	Absent
Laurie Corbin		
Ron Duchovic		
Cheryl Duncan		
Gail Hickey		
Craig Hill		
Nancy Jackson		
Chenwei Li		
David Liu		
Susan Skekloff		

**Proposal for a Concentration in Genetics, Cellular, and Molecular Biology**  
**Indiana University-Purdue University Fort Wayne**  
December 1, 2014

Developed by:

George Mourad, Professor of Biology  
Punya Nachappa, Assistant Professor of Biology  
Tanya Soule, Assistant Professor of Biology  
Mark Jordan, Associate Professor of Biology

**I. Name of proposed concentration**

Bachelor of Science in Biology with a concentration in Genetics, Cellular, and Molecular Biology

**II. Title of degree to be conferred:**

Bachelor of Science

**III. Field of study, department, and school involved**

Genetics, Cellular, and Molecular Biology, Department of Biology, COAS

**IV. Objectives of the proposed concentration**

The goal of this concentration is to prepare students to be at the forefront of genetics, cellular and molecular biology. Students will share a common curriculum of traditional biology disciplines along with in-depth training in the aforementioned areas. Students will not only learn basic concepts, but also current techniques employed in research labs. A wide range of electives will expose students to concepts and applications in molecular genetics, developmental biology, cellular biology, microbiology, virology, 'omics, immunology, and biotechnology. This multi-disciplinary education and training will prepare students for entry into graduate schools and many areas in the industry including, medicine and health care, pharmaceutical and drug discovery, agriculture, biotechnology, and environmental research.

**V. Proposed date of initiation**

Fall 2015

**VI. Relationship of the proposed program to the mission and scope of the campus**

Department Mission – “The Department of Biology is committed to offering high quality undergraduate and graduate educational opportunities” . . . “The Bachelor’s and Master’s degrees provide students with the education and training needed to enhance their career opportunities, or to pursue further graduate studies.”

This concentration supports the Department mission by providing students with an opportunity to enrich their academic program in a major discipline of biology in preparation for graduate study. Additionally, the concentration will provide students with the conceptual framework and laboratory skills needed to prepare for careers in biotechnology, medicine, agriculture, and education.



College Mission – As part of the College of Arts and Sciences “The college provides students with a breadth of knowledge about the global environment and fosters an appreciation and respect for diversity. The College of Arts and Sciences equips students to think critically, communicate effectively, and develop creative solutions to future challenges.”

The proposed concentration supports the College mission by providing students with deep understanding of a fundamental area of biology that has broad impact on personal, societal and cultural issues. Students will gain knowledge and skills that are needed for maximizing the benefits of progress in biotechnology while minimizing risks in its application.

University Mission – “IPFW is a comprehensive university that provides local access to globally recognized baccalaureate and graduate programs that drive the intellectual, social, economic, and cultural advancement of our students and our region”

The proposed concentration supports the University mission by significantly enhancing the biology degree by offering students a specialized focus of study. The concentration will also prepare students with skills and abilities to seek graduate study or career opportunities that rely on the knowledge and application of genetics and molecular biology.

#### **VII. Relationship of the proposed program to already existing programs within the campus**

The proposed concentration would be a unique option for students already in the existing Biology major. No other programs on campus focus on the disciplines covered by the proposed concentration (genetics, cellular and molecular biology).

#### **VIII. Cooperative endeavors explored and/or intended with other institutions**

Several biotechnology and pharmaceutical companies in the region and beyond have hired IPFW biology graduates (BS and MS) who have done research in the genetics and molecular biology discipline. For example Tyler Mansfield was hired by Dow AgroSciences (Indianapolis), Richard Emerick was hired by Eli Lilly (Indianapolis), Brian Snook was hired by Schering Plough Pharmaceuticals (Indianapolis), Joshua Prabhakar was hired by Glaxo Smith Kline (North Carolina). Formalizing student training in the disciplines of genetics, cellular and molecular biology, by making available the newly proposed concentration within Biology, will only enhance our graduates’ opportunities to be competitive, regionally and nationally, for employment in the biotechnology and pharmaceutical industry as well as for admission into Ph.D. programs and professional doctoral programs (e.g. medical, dental, veterinary medicine). The newly proposed concentration may serve as a feeder to biotech and pharmaceutical industries in the region. The newly proposed concentration may also provide collaborative opportunities, curriculum- and research-wise, with the nearby IU-Fort Wayne medical school (on campus) and College of Pharmacy, University of Manchester (north of Fort Wayne).

#### **IX. Need for the concentration**

Graduates with a concentration in genetics, cellular and molecular biology should be well positioned to pursue careers in biotechnology and laboratory science. According to the Indiana Department of Workforce Development (<http://www.hoosierdata.in.gov>), demand for the broad area of “Life, Physical, and Social Science” occupations is expected to increase by 14.3%

over the next ten years in Indiana. Among the specific occupations with relevance to the proposed concentration, growth is projected in Life Scientists (16.5%), Animal Scientists (5.9%), Soil and Plant Scientists (20.2%), Medical Scientists (27.8%), and Agricultural and Food Science Technicians (8.9%).

**X. Resources required over and above current levels to implement the proposed concentration**

The Department of Biology has the resources to support the proposed concentration.

***Library questionnaire***

The Genetics, Cellular and Molecular Concentration is nested within the Biology B.S. It draws from elective courses that are routinely taught in the department but packages them in specific way to form the concentration. Hence, we anticipate no change in the use of library resources as a result of the concentration since there is no addition of courses to the current curriculum. We provide this as context for answers to the specific questions below.

*Which databases/indexing sources will be used by the courses in this program?*

- PubMed
- Scopus
- Biological Sciences Collection (ProQuest)
- Google Scholar
- Web of Science

*What are the journals that will be used by students completing library research in this program? Please list three to five titles. Is there an expectation that access to new journals will need to be purchased for students in this program?*

- Public Library of Science (PLOS ONE) (PLOS Genetics)
- Journal of Medical Biochemistry
- Science
- BMC Genomics
- Additional journal subscriptions are not necessary.

*Are there any specific reference sources (e.g. encyclopedias, handbooks, standards, etc.) required to support the new program?*

No.

*Is there an expectation for additional books to be purchased? What about DVD or audio/visual materials? What is the estimated dollar amount needed yearly to support this program with new books and media materials?*

No additional materials will be necessary beyond the allocation provided to the Department of Biology.

*Will the new program use the Library's Document Delivery Services? Costs for this service come out of the Library's budget. What types of materials would the program be requesting through DDS?*

Document Delivery Service requests are not expected to increase as a result of the proposed concentration.

*Who is the liaison librarian for this program? The liaison librarian provides support through involvement in Blackboard-supported classes, one-on-one research consultations, in-class instructional sessions, and tailored course guides for research assignments. Which of these librarian services do you anticipate will be utilized in the new program?*

David Dunham is the liaison for Biology and would serve the concentrations within the major.

At this time none of the specific services described are anticipated. While there may be some student research consulting, the demand should not increase beyond the current usage.

*Is there an accrediting body that will be overseeing this program? What are the statements of the accrediting body related to the library, e.g. holdings, personnel, services?*

Accreditation of the Biology B.S. is part of the IPFW accreditation by the North Central Association of Colleges and Schools, Higher Learning Commission. In their "Criteria for Accreditation" (Number CRRT.B.10.010) it is stated in component 3.D.4 that: *The institution provides to students and instructors the infrastructure and resources necessary to support effective teaching and learning (technological infrastructure, scientific laboratories, **libraries**, performance spaces, clinical practice sites, museum collections, as appropriate to the institution's offerings).*

## XI. Proposed curriculum (Total 120 credits for the degree)

The concentration requires a total of **19 credits** of upper division courses as follows: 10 required credits distributed among genetics (BIOL 50600), cell biology (BIOL 38100), and molecular biology with lab (BIOL 50900/BIOL58400); 6 credits elected from a list of biology courses (including 3 lab courses) that encompass all aspects of the concentration; and a required 3-credit biochemistry (CHM 53300) course that provides the biochemical foundation of the concentration. The 3-hour molecular biology lab (BIOL 58400) provides a broad spectrum of molecular experiments justifying its requirement for the concentration. In addition, **101 credits** are fulfilled by the core curriculum in biology, supporting areas in chemistry, physics, mathematics, foreign language, general education and free electives. Therefore, the concentration requires a total of **120 credits** (depending on the biology elective being with or without lab). Note that this concentration groups existing courses offered as upper division biology electives and does not modify the set of core courses required of all biology majors.

Area	Course #	Course name	Credits	
<b>Required</b>				
Genetics	BIOL 50600	Human Molecular Genetics	3	
Cellular	BIOL 38100	Cell Biology	3	
Molecular Biology	BIOL 50900	Molecular Biology and Applications	3	
	BIOL 58400*	Molecular Biology and Applications Lab	1	
			<b>10</b>	
<b>Biology Electives</b>				
Genetics	BIOL 52400	Bacterial Diversity and Systematics	3	
	FNR 50500	Molecular Ecology and Evolution	3	
Cellular	BIOL 43700*	General Microbiology	4	
	BIOL 53700	Immunology	3	
	BIOL 56500*	Immunology Lab	1	
	BIOL 56600	Developmental Biology	3	
	BIOL 56700*	Laboratory in Developmental Biology	1	
Molecular Biology	BIOL 51600	Molecular Biology of Cancer	3	
	BIOL 53300	Medical Microbiology	3	
	BIOL 54000	Biotechnology	3	
	BIOL 54400	Principles of Virology	3	
	BIOL 51810	Biomedicine	3	
			6 credits from above	<b>6</b>
<b>Biochemistry</b>	CHM 53300	Introduction to Biochemistry	<b>3</b>	
<b>Total credits required</b>			<b>19</b>	

\*Courses with lab

## XII. Four-Year Plan

<b>Freshman Year</b>			<b>31</b>
<b>First Semester</b>	<b>Gen Ed</b>	<b>Course</b>	<b>14</b>
COM 11400	A2	Fundamentals of Speech	3
MA 22900 (P:MA15300)	A3	Calculus I	3
BIOL 11700		Principles of Ecology and Evolution	4
CHM 11500	B4	General Chemistry I	4
<b>Second Semester</b>		<b>Course</b>	<b>17</b>
GenEd B5	B5		3
ENG W131	A1	Elementary Composition I	3
BIOL 11900		Principles of Structure and Function	4
CHM 11600		General Chemistry II	4
Free Elective			3
<b>Sophomore Year</b>			<b>30</b>
<b>Third Semester</b>		<b>Course</b>	<b>15</b>
BIOL 21900		Structure & Function	4
CHM 25500/25400		Organic Chemistry w/ lab	4
Foreign Language I	B7	Foreign Language I	4
GenEd B6	B6		3
<b>Fourth Semester</b>		<b>Course</b>	<b>15</b>
Foreign Language II	A/B elect.	Foreign Language II	4
BIOL 21800		Genetic and Molecular Biology	4
CHM 25600/25800		Organic Chemistry w/ lab	4
STAT 24000		Statistical Methods for Biology	3
<b>Junior Year</b>			<b>30</b>
<b>Fifth Semester</b>		<b>Course</b>	<b>16</b>
PHYS 22000	A/B elect.	General Physics I	4
BIOL 21700		Intermediate Ecology	3
STAT 34000		Elementary Statistical Methods II	3
BIOL 38100		Cell Biology	3
Free Elective			3
<b>Sixth Semester</b>		<b>Course</b>	<b>14</b>
PHYS 22100		General Physics II	4
BIOL 50900/58400		Molecular Biology and Applications with lab	4
ENG W233	A/B elect.		3
Free elective			3

<b>Senior Year</b>		<b>29*</b>
<b>Seventh Semester</b>	<b>Course</b>	<b>15-16</b>
BIOL 50600	Human Molecular Genetics	3
GCM elective - BIOL 51810/52400/54400/43700/51600	Biomedicine/Bacterial Diversity and Systematics/Principles of Virology/ General Microbiology/ Molecular Biology of Cancer	3-4
CHM 533	Biochemistry I	3
Free electives		7
<b>Eighth Semester</b>	<b>Course</b>	<b>12-13</b>
BIOL 49100	C8 Senior Biology Seminar	3
GCM elective - BIOL 54000/56600/56700/ FNR 50500/BIOL 53300/53700/56500	Biotechnology/Developmental Biology/ Molecular Ecology and Evolution/ Medical Microbiology/Immunology	3-4
Free electives		6
<b>Total</b>		<b>120</b>

Highlight indicates courses towards fulfilling the 19-hour GCM concentration

\*Choices are possible among elective courses but the total number of credit hours must reach 120.