

Minutes of the
Third Regular Meeting of the Thirty-Seventh Senate
Indiana University-Purdue University Fort Wayne
November 13, 2017
12:00 P.M., KT G46

Agenda
(as amended)

1. Call to order
2. Approval of the minutes of October 11
3. Acceptance of the agenda – K. Pollock
4. Reports of the Speakers of the Faculties
 - a. Indiana University – A. Downs
 - b. Purdue University – A. Schwab
5. Report of the Presiding Officer – J. Malanson
6. Committee reports requiring action
 - a. Executive Committee (Senate Document SD 17-8) – K. Pollock
 - b. Executive Committee (Senate Document SD 17-9) – K. Pollock
 - c. Executive Committee (Senate Document SD 17-10) – K. Pollock
 - d. Promotion and Tenure Task Force (Senate Document SD 17-11) – A. Downs
 - e. Educational Policy Committee and General Education Subcommittee (SD 17-12) – L. Wright-Bower
7. Question Time
 - a. (Senate Reference No. 17-11) – A. Livschiz
 - b. (Senate Reference No. 17-12) – A. Livschiz
8. New business
9. Committee reports “for information only”
 - a. Curriculum Review Subcommittee (Senate Reference No. 17-9) – S. Baddam
 - b. Graduate Subcommittee (Senate Reference No. 17-10) – D. Cochran
10. The general good and welfare of the University
11. Adjournment*

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

Presiding Officer: J. Malanson
Parliamentarian: W. Sirk
Sergeant-at-arms: G. Steffen
Secretary: J. Bacon

Attachments:

“Resolution in Support of Purdue SD 17-03” (SD 17-8)
 “Historical Senate Documents and References” (SD 17-9)
 “Schools within Colleges” (SD 17-10)
 “Guiding principles of promotion for clinical faculty at PFW” (SD 17-11)
 “Approval of replacement members of the Educational Policy Committee and the General Education Subcommittee” (SD 17-12)
 “Question Time – re: Dual Credit” (SR No. 17-11)
 “Question Time – re: Retention” (SR No. 17-12)
 “Proposal for B.S. in Psychology” (SR No. 17-9)
 “Nonprofit Management Concentration in the Masters of Public Management (MPM) Degree Program” (SR No. 17-10)

Senate Members Present:

A. Argast, A. Benito, P. Bingi, S. Bischoff, B. Boatright, A. Boehm, B. Buldt, J. Burg, S. Carr, D. Chen, D. Cochran, K. Dehr, Y. Deng, S. Ding, A. Downs, C. Drummond, R. Elsenbaumer, B. Fife, M. Gruys, G. Hickey, R. Hile, D. Holland, M. Jordan, D. Kaiser, B. Kim, S. King, A. Kreager, L. Kuznar, J. Leatherman, E. Link, A. Livschiz, H. Luo, L. McAllister, D. Miller, Z. Nazarov, J. Niser, E. Norman, G. Petruska, K. Pollock, M., Qasim, B. Redman, P. Reese, N. Reimer, S. Rumsey, G. Schmidt, A. Schwab, A. Ushenko, G. Wang, D. Weese, M. Wolf, N. Younis, M. Zoghi

Senate Members Absent:

A. Bales, B. Datillo, A. Macklin, J. Marshall, J. Nowak, A. Obergfell, J. O’Connell, B. Salmon, S. Stevenson, R. Sutter, B. Valliere, R. Vandell, L. Vartanian, L. Wright-Bower

Guests Present:

M. Coussement, A. Dircksen, C. Hine, C. Sternberger

Acta

1. Call to order: J. Malanson called the meeting to order at 12:00 p.m.
2. Approval of the minutes of October 16: The minutes were approved as distributed.
3. Acceptance of the agenda:

K. Pollock moved to accept the agenda.

A. Downs moved to amend the agenda to add SD 17-12 for reports requiring action under 6.e.

Motion to amend the agenda passed by voice vote.

Agenda approved by voice vote.

4. Reports of the Speakers of the Faculties:

a. Indiana University:

A. Downs: Two items very quickly. Thank you to those who submitted comments regarding the interdisciplinary work that is being done and we will have something for you related to that in the not so distance future. And although it appears that we have already entered the holiday gift giving season as I like to call it, with at least two radio stations perpetually playing Christmas music, I would like to wish everyone a happy Thanksgiving, not forgetting that that holiday comes before the other holiday.

b. Purdue University:

A. Schwab: My comments are minimal. I look forward to the first meeting with the Vice-Chancellors and the new Chancellor this coming Thursday. I also want to remind everyone about the Thanksgiving holiday coming before Christmas, and I know that my students will be thankful, as I've cancelled class for next week. And then finally, the next meeting of the Intercampus Faculty Council will be December 1. I gave a report on our first meeting last Senate meeting. If you have any issues or concerns you would like me to bring to that meeting please reach out to me.

5. Report of the Presiding Officer:

J. Malanson: You might recall the emergency drill last month—a staged active shooter event in student housing. Reports are that it was a successful drill for the people participating in the active part of it. For the rest of campus, it was useful to identify the many communication technology breakdowns that took place. Emergency alert emails were filtered to a lot of Clutter folders; many faculty and staff had not signed up for the optional text alerts; phone calls to offices were haphazard in their timing, if they went through at all; and the Alertus desktop service that is supposed to take over all networked computers did not. While none of this is ideal, the drill was the time to find out about these problems rather than during an actual emergency situation.

The faculty leaders, along with a group of administrators, has been in the process of developing a new set of peer institutions for IPFW/PFW. While this would normally be part of a strategic planning process, IPFW did not develop a new list when Plan 2020 was created back in 2013-14, and our “current” list is grossly out of date for where IPFW currently is and where PFW will be after Realignment. The list is going through some final vetting and will hopefully be released to campus soon.

As you all know, the faculty leaders have been conducting a study of administrative staffing and budgeting. We released a preliminary dataset earlier this semester and held a couple of forums to answer questions and solicit feedback. We determined a methodology for analyzing the data and had started that process when we developed the

new peer institution list. In order to make that list immediately useful, as well as to make the administration study more useful, we scrapped the original dataset, collected data for the new peer group, and redid the analysis. We have completed and are reviewing a draft of the report and intend to share it with campus for feedback soon. As with the preliminary dataset, the current plan is to circulate a draft for questions and comments before finalizing it and formally submitting it to the Senate and the administration.

Finally, Purdue recently announced that it was moving up the budget development timeline. Historically, conceptual budgets for each system campus have been approved by the Board of Trustees at a special meeting in late June, and final budgets have been approved in October (3 months into the fiscal year). The new timeline will have the Board approve a final budget in April. This will create some challenges for this year's process, but is ultimately a reasonable step. Virtually everything about PFW's budgeting will be changing in the next year, between Purdue's business process reengineering initiative, Realignment, implementation of banded tuition, the move of DCS into the General Fund, and other changes. While we certainly want to make sure that the Budgetary Affairs Subcommittee and University Budget Committee understand these changes and their ramifications, we also want to do everything we can to ensure that this information is shared as broadly as possible (and in as user-friendly a manner as possible) with the campus community.

6. Committee reports requiring action:

a. Executive Committee (Senate Document SD 17-8) – K. Pollock

K. Pollock moved to approve Senate Document SD 17-8 (Resolution in Support of Purdue SD 17-03).

Motion to approve passed on a voice vote.

b. Executive Committee (Senate Document SD 17-9) – K. Pollock

K. Pollock moved to approve Senate Document SD 17-9 (Historical Senate Documents and References).

Motion to approve passed on a voice vote.

c. Executive Committee (Senate Document SD 17-10) – K. Pollock

K. Pollock moved to approve Senate Document SD 17-10 (Schools within Colleges).

A. Livschiz moved to amend SD 17-10 by changing “these schools will operate as large departments” to “these three schools will operate as large departments.”

Motion to approve amendment passed on a voice vote.

Motion to approve SD 17-10 as amended passed on a voice vote.

d. Promotion and Tenure Task Force (Senate Document SD 17-11) – A. Downs

A. Downs moved to approve Senate Document SD 17-11 (Guiding principles of promotion for clinical faculty at IPFW).

R. Hile moved to amend SD 17-11 by deleting “Each department must decide if it is an option within that department. The decision of the department must be stated clearly in the department promotion and tenure documents.”

Motion to approve amendment passed by a 22 to 19 vote.

B. Buldt moved to table SD 17-11 until the December 11 meeting of the Faculty Senate.

Motion to table SD 17-11 failed on a voice vote.

Motion to approve SD 17-11 as amended passed on a voice vote.

e. Educational Policy Committee and General Education Subcommittee (Senate Document SD 17-12) – L. Wright-Bower

K. Pollock moved to approve Senate Document SD 17-12 (Approval of replacement members of the Educational Policy Committee and the General Education Subcommittee).

Motion to approve passed on a voice vote.

7. Question Time:

a. (Senate Reference No. 17-11) – A. Livschiz

Has there been a systematic study done to assess the impact of dual credit on IPFW students? If not, would it be possible for Office of Institutional Research to carry out such a project? If yes, where can we see the results?

From talking to other faculty who have been at IPFW for a while, there is anecdotal evidence that our students are becoming less and less prepared to deal with challenges of 100- and 200-level classes. Anecdotal evidence suggests that dual credit may be responsible for this—students bypass IPFW-based introductory classes and miss out on important content knowledge and introduction to college study skills. Even if students receive the necessary content knowledge, they are not prepared for the kind of independent work required/expected at the college level.

We also have students who take their introductory classes at Ivy Tech to “save money,” and then transfer to IPFW. They often don’t have any introductory classes left to take, and often find themselves struggling in upper level classes. Since anecdotal data is not real data, it would be nice if we could have some data to get a better understanding of the situation.

For example, it would be nice to see how a student who took the first class in a formal sequence through dual credit or at Ivy Tech did in subsequent classes in the sequence. This can be checked by looking at the Math sequences (exploring a number of different possible paths), English sequence (ENG W131 and ENG W233), Spanish sequence, and possibly the science sequences (if appropriate).

In addition to these formal sequences, it would be nice to see how students did in disciplines without strict sequences (PSY 120 and upper level Psychology classes; 100-level History class and upper level History classes; 100-level POLS class and upper level POLS classes, etc.)

It would also be good to analyze the dual credit impact taking into account the university through which dual credit was done, so we can differentiate dual credit through IPFW from other institutions.

If the data shows that students do better in more advanced classes if they take introductory classes at IPFW (rather than dual credit or Ivy Tech), and/or students are better prepared for upper level classes after doing their dual credit through IPFW rather than other local colleges, this may give us “ammunition” to help promote IPFW to local area students. This is particularly important, since at least some of our enrollment problems are due to students not taking classes with IPFW because they already have done them through dual credit.

(I realize that part of the problem is the Core Transfer Library and our findings are unlikely to do anything with that. But we would still be able to promote our classes as being more effective at preparing students.)

b. (Senate Reference No. 17-12) – A. Livschiz

Has there been a systematic study done to see if there is any relationship between retention success and online vs f2f classes in the students’ freshman year (especially first semester)? If not, would it be possible for Office of Institutional Research to carry out such a project?

Again, anecdotal evidence suggests that freshmen **think** that they will do better with online classes because of flexibility, but end up withdrawing or failing online classes. Having data on this subject may help with advising during A&R days.

C. Drummond: So to provide a brief answer to both. Both topics have been given consideration and discussion, but not a systematic study. So, we will begin with that. Thank you for the questions. They are good ones.

When we come to dual credit, we've spent a lot of time trying to ensure that the curriculum is aligned with what we are doing and certifying the instructors. So, we've put a lot of effort into that. What we have not done in any systematic way is what is suggested here, which is an analysis of "then what?" So, the example given, and I think it is a good one, is "if a student completes 153 then how do they do when they take calculus?" Or if they take Calculus I, how do they do in Calculus I? So those are systematic and laddered curricula, and I think that is a fairly easy thing to do. And we may be able to do the same thing with 131 and 233. But, as the question points out, it is harder when you get into other disciplines. Previous Psychology provided dual credit experiences with Psych 120 and maybe could have done something there for students who pursue a degree in Psychology. But, they have eliminated that, so it is something that we can do. I have asked the Director of Institutional Research to look at both of these questions and help us prepare data sets.

When we come to the second question about face to face vs online instruction, some of you might remember pretty extensive analysis that was conducted by Elaine Blakemore that looked at face to face vs online success, particularly in same class same instructor pairings. It was a fairly extensive surveying that found in the online environment with same instructor same course there was a statistically significant greater rate of DFW. So, I think that there is a general perception on campus that the dedication and discipline needed to be successful in an online environment is higher than the face to face environment, and whether that is borne out we can further study. I would be comfortable with some kind of limitation on access to online classes for first year students, particularly first year students below some level of academic preparation. But, we haven't done a systematic study. I will say that, as we know, online sections fill very rapidly and many of them are completely filled by the time we come to the first A&R day anyway. So, the options available to them are fairly limited. But, I am happy to take a look into it.

A. Livschiz: So, for the second part, how would this work? So, more data is collected in order to have some kind of policy that commits first year or first semester students to the process. Is that something that we will see? Is that something that you will collect the data and then send to deans to see?

C. Drummond: So, it would be some official university policy that would require VC action that would be informed by some understanding of student success analysis that was conducted. Beyond just did they get a D or an F or did they withdraw, one of the reasons you might want to limit access to online classes is because we want the students to participate in the life of the campus. Even if they got an A in an online class, but they sat in their dorm doing so, that doesn't necessarily lead to long term success. And so I think that it is more than just an academic issue, it is socialization and a connection to the campus issue as well.

A. Livschiz: Do you think this is something we could do this year in trying to get it implemented for NSO during summer 2018?

C. Drummond: The first NSO would be in May, so we would have to have things done yet this Senate year. Yes, potentially.

A. Livschiz: So, then the first question. You answered one part of my question, because obviously IPFW does have control over the instructors, but for those schools who find our requirements too strict there is still plenty of opportunities for students to be able to take dual credit through instructors who have not been certified by IPFW, but have been certified by whoever else. The problem is we have students who have been told “take these classes, you are going to save money. Go to Ivy Tech. Take these classes. You are going to save money.” And we know that when they come here they end up having problems. If a student takes the first two semesters of Spanish at Ivy Tech, they can’t take the next two semesters of Spanish at IPFW because the second semester of Spanish does not prepare them for the third semester of Spanish, even though technically on paper it does. But, in practice it absolutely doesn’t. If we had data to be able to show this then this could be a way that we could try to negate the argument that you are saving money by going to Ivy Tech. That saving money by going to Ivy Tech is not actually an argument because you may not be saving money. You may end up having to retake things and so on. So, there is the internal issue, but then there is also this other external kind of propaganda issue that could potentially help us with recruitment if we have the data to be able to show it.

C. Drummond: So, as you pointed out, these are state-run policies. There is very little we can do other than have our representatives go make the case that “your whatever is not working here.” It used to be that long ago before the state intervention in higher education that we have seen for the last ten years, we had an opportunity to work with local Ivy Tech to say “your accounting classes are not preparing students for going along in our accounting and we would like you to take these two classes as the same as our first accounting class.” Those kind of things were worked out on a personal basis between instructors and locally, but with the unification of the Ivy Tech curriculum in a statewide way and the statewide initiatives we really have to go fight a statewide battle, and of course nobody wants to see their course decertified or certified at a lower level. So, it is a particular challenge.

A. Livschiz: Right. I am sure Andy could tell us all about statewide battles that we want or don’t want to get into. But, I am really just thinking about purely propaganda purposes. I mean we have people that work in admissions that could presumably make the pitch for IPFW faced with the argument that “we can do this cheaper somewhere else.” And this would give us ammunition, if the data bears out, that we could actually use. And it seems very important to have this data. So, can we get this data?

C. Drummond: Yes. That was the answer for both. We will work on it.

A. Livschiz: And I think as far as sequences, maybe departments could suggest possible sequences to Jeff because I would love to see it measured not with just the obvious paths, but with others as well.

A. Downs: For those of you who don't know, I actually spent the last two years teaching courses at Homestead High School as part of what they call senior experiences for college-bound students. I was there and taught on kind of a college schedule. I can tell you that the pressure is actually somewhat external, as the parents are the ones putting pressure on the schools to create dual credit options. Good schools are trying to find out ways to make sure those dual credit experiences are as much college-like as possible. In terms of what I experienced at Homestead, part of the issue was that I really was a college prof. The students looked at me differently. They understood me differently as opposed to the person they had for another class who now happened to be teaching their dual credit class. That classroom dynamic cannot be ignored. It is a real feature.

The issues of CTL and statewide Gen Ed core, I sat on the CTL for a while and was there when the statewide role was created. This is very much an external pressure so that parents can see their cost of college reduced dramatically. We've got to figure out, because I don't think we can win the state-wide battle, I think we have to figure out a way for us to influence the quality of what is happening from the dual credit standpoint in the area that we serve. That is where I think our efforts should be directed.

M. Wolf: I agree with what Andy is talking about. Part of the study problems we have is a selection bias over who takes dual credit in high school. The accrediting agency has a couple of peer reviews from Texas that shows what disciplines are affected. So, when we do a study internally we are going to run into a selection bias issue.

A. Ushenko: This is just a general remark. One of the problems is not just a lack of socialization. Any kind of prolonged discussion or argumentation between professor and student is not really facilitated online because students typically lack the verbal sophistication and frame of reference to be able to conduct an in-depth discussion online. I think that is a very important factor.

8. New business: There was no new business.

9. Committee reports "for information only":

a. Curriculum Review Subcommittee (Senate Reference No. 17-9) – S. Baddam

Senate Reference No. 17-9 (Proposal for B.S. in Psychology) was presented for information only.

b. Graduate Subcommittee (Senate Reference No. 17-10) – D. Cochran

Senate Reference No. 17-10 (Nonprofit Management Concentration in the Masters of Public Management (MPM) Degree Program) was presented for information only.

10. The general good and welfare of the University:

A. Downs: I would like to thank everyone that voted in favor of the guiding principles for clinical faculty. They really do an awful lot of work that goes unnoticed on this campus and they deserve recognition and appreciation.

J. Malanson: I would like to welcome Chancellor Elsenbaumer here. It is his first meeting as officially chancellor. He was here last month in an unofficial capacity. So, welcome Chancellor Elsenbaumer.

R. Elsenbaumer: I would just like to say that I appreciate the discussion that I am hearing today. I think this is very thoughtful and essential. I also find it very informative. I appreciate being here and being able to listen.

11. Adjournment: The meeting adjourned at 1:01 p.m.

Joshua S. Bacon
Secretary of the Faculty

To: The Fort Wayne Senate
From: Kathy Pollock, Chair
Senate Executive Committee
Date: October 31, 2017
Subject: Resolution in Support of Purdue SD 17-03 Inherent Worth and Dignity
of All People at Purdue University

WHEREAS: The Purdue University Senate passed Purdue SD 17-03, which formally condemns the messages of groups and individuals that promote hatred, white supremacy, xenophobia, anti-Semitism, anti-Islam, and anti-immigrant rhetoric; and affirms that the university community is a welcoming place which recognizes the inherent worth and dignity of every person.

WHEREAS: "Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life;"¹

WHEREAS: The Fort Wayne University Senate has the power and responsibility to recommend and to review and approve policies concerning the educational welfare of our campus;

WHEREAS: Symbols and expressions of hatred, misogyny, homophobia, white nationalism, and white supremacy have appeared on university campuses across the country, including Purdue University and IPFW;

WHEREAS: Purdue SD 17-03 notes that President Mitch Daniels and Interim Provost Jay Akridge wrote in a message to the University community on August 21, 2017, "ours is a community of respect in which we can all live, learn, work, and grow, and each of you is a valued member of that community;"

WHEREAS: Purdue Senate Resolution 16-01, passed October 19, 2016, states that "The Purdue University Senate reaffirms its commitment to the University's nondiscrimination policy and supports the rights of all people to be treated with respect and dignity."

WHEREAS: Purdue Senate Resolution 13-5 endorsed the *We Are Purdue Statement of Values* which states in part that "We are a unified community that respects each other by embracing diversity, promoting inclusion, and encouraging freedom of thought and speech."

THEREFORE, BE IT RESOLVED THAT:

The Fort Wayne Senate strongly endorses these actions taken in the Purdue University Senate, including the passage of Purdue SD 17-03; and joins with the Purdue University Senate in formally condemning the messages of groups and individuals that promote hatred, white supremacy, xenophobia, misogyny, homophobia, anti-Semitism, anti-Islam, anti-immigrant, and anti-refugee rhetoric; and reaffirms that the university community is a welcoming place recognizing the inherent worth and dignity of every person.

¹ Purdue University Nondiscrimination Policy Statement

To: The University Senate
From: Equity and Diversity Committee
Subject: Inherent Worth and Dignity of All People at Purdue University
Disposition: University Senate for Discussion and Approval

WHEREAS: “Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life;”¹

WHEREAS: The University Senate, “subject to the authority of the Board of Trustees and in consultation with the President, has the power and responsibility to propose or to adopt policies, regulations, and procedures intended to achieve the educational objectives of Purdue University and the general welfare of those involved in these educational processes;”²

WHEREAS: The Senate’s Equity and Diversity Committee shall provide guidance in all aspects of climate, recruitment, retention, inclusion, and equal opportunities for access and success.

WHEREAS: Symbols and expressions of hatred and white supremacy are appearing across university campuses across the country and here at Purdue University;

WHEREAS: President Mitch Daniels and Interim Provost Jay Akridge wrote in a message to the University community on August 21, 2017, “ours is a community of respect in which we can all live, learn, work, and grow, and each of you is a valued member of that community;”

WHEREAS: Senate Resolution 16-01, passed October 19, 2016, states that “The Purdue University Senate reaffirms its commitment to the University’s nondiscrimination policy and supports the rights of all people to be treated with respect and dignity.”

WHEREAS: Senate Resolution 13-5 endorsed the *We Are Purdue Statement of Values* which states in part that “We are a unified community that respects each other by embracing diversity, promoting inclusion, and encouraging freedom of thought and speech.”

WHEREAS: The Purdue Graduate Student Government passed a resolution, which we fully support, on September 27, 2017 condemning the Identity Evropa and American Vanguard Flyers on Purdue Campus;

THEREFORE, BE IT RESOLVED THAT:

The University Senate formally condemns the messages of groups and individuals that promote hatred, white supremacy, xenophobia, anti-Semitism, anti-Islam, and anti-immigrant rhetoric; and reaffirms that the university community is a welcoming place which recognizes the inherent worth and dignity of every person.

Notes:

¹Purdue University Nondiscrimination Policy Statement

²Bylaws of the University Senate

Approved by:

Taylor Bailey

Bharat Bhargava

Tithi Bhattacharya

Michele Buzon

Cheryl Cooky

Neil Knobloch

Ellen Kossek

Joseph La Lopa

Song No

Loran Parker (advisor)

Linda Prokopy (Chair)

Audrey Ruple

Henry Semler

Heather Servaty-Seib

Tatyana Sizyuk

Did not Vote:

Lowell Kane (advisor)

Alysa Rollock (advisor)

MEMORANDUM

TO: Fort Wayne Senate

FROM: Kathy Pollock, Chair
Senate Executive Committee

DATE: October 31, 2017

SUBJ: Historical Senate Documents and References

WHEREAS, The Indiana University Faculty and Purdue University Faculty at Indiana-University-Purdue University Fort Wayne (IPFW) formed a joint Fort Wayne Senate in Fall 1981; and

WHEREAS, IPFW will be split into Purdue University Fort Wayne and Indiana University Fort Wayne on July 1, 2018 as a result of Realignment; and

WHEREAS, On October 16, 2017, the Fort Wayne Senate approved Senate Document SD 17-7, which changed the “Constitution of the Faculty of Indiana University-Purdue University Fort Wayne” into the “Constitution of the Faculty of Purdue University Fort Wayne,” and amended both the Constitution and the Bylaws of the Senate to reflect necessary changes as a result of Realignment; and

WHEREAS, The amendments to the Constitution proposed in Senate Document SD 17-7 were approved by the faculty on October 30, 2017; and

WHEREAS, The existing Constitution of the Fort Wayne Senate, as amended, will remain in effect after Realignment, and the Senate’s current committees and subcommittees will likewise continue operation after Realignment; and

WHEREAS, The Fort Wayne Senate values the work that has been performed by Fort Wayne Faculty since Fall 1981 in creating and amending countless Senate Documents and References that govern the university to this day;

BE IT RESOLVED, That all Senate Documents and References adopted by the Fort Wayne Senate under the auspices of the Constitution of the Faculty of Indiana University-Purdue University Fort Wayne will remain in effect, unless individually rescinded or superseded, after July 1, 2018, when the Fort Wayne Senate will begin operating under the auspices of the Constitution of the Faculty of Purdue University Fort Wayne.

MEMORANDUM

TO: Fort Wayne Senate

FROM: Kathy Pollock, Chair
Executive Committee

DATE: October 31, 2017

SUBJ: Schools within Colleges

WHEREAS, IPFW has proposed the creation of a new academic organizational and administrative structure, the school within a college; and

WHEREAS, IPFW has proposed the creation of three new schools within colleges:

- (1) the School of Education within the newly-established College of Professional Studies,
- (2) the School of Music within the College of Visual and Performing Arts, and
- (3) the School of Polytechnic within the College of Engineering, Technology, and Computer Science; and

WHEREAS, Functionally, these three schools will operate as large departments, will feature similar administrative structures as existing departments, and can never house departments within them; and

WHEREAS, Existing Senate documents and references make reference to the rights, responsibilities, obligations, expectations, and restrictions on departments, including, perhaps most importantly, during the Promotion and Tenure process;

BE IT RESOLVED, That all existing and future Senate documents and references that make reference to departments shall be understood to also apply to schools within colleges, unless otherwise stated in a document or reference; and

BE IT FURTHER RESOLVED, That the Bylaws of the Senate shall be amended to include the following new provision:

1.3. In these Bylaws, and in all existing and future Senate documents and references that make reference to departments, those references shall be understood to also apply to schools within colleges, unless otherwise stated in a document or reference. See Senate Document SD 17-10 for background.

BE IT FURTHER RESOLVED, That the Senate encourages the administration to issue similar clarifying language for Office of Academic Affairs and other administrative documents and policies.

Approved

Opposed

Abstention

Absent

Non-Voting

S. Carr
A. Downs
J. Malanson
K. Pollock
A. Schwab
L. Wright-Bower
N. Younis

MEMORANDUM

TO: Fort Wayne Senate

FROM: Andrew Downs, Chair
Promotion and Tenure Task Force (P&TTF)

DATE: October 23, 2017

SUBJ: Guiding principles of promotion for clinical faculty at PFW

WHEREAS, the Fort Wayne Senate approved guiding principles and procedures for non-clinical faculty at IPFW in the spring of 2015; and

WHEREAS, the Fort Wayne Senate determined that it was prudent to draft separate guiding principles and procedure documents for promotion of clinical faculty; and

WHEREAS, clinical faculty met to draft guiding principles and procedure documents for promotion of clinical faculty; and

WHEREAS, the draft guiding principles and procedure document was e-mailed to every clinical faculty member who will be a member of the Purdue Fort Wayne faculty;

BE IT RESOLVED, that the Fort Wayne Senate adopt SD 17-11 as the guiding principles for promotion of clinical faculty at PFW; and

BE IT FURTHER RESOLVED, that SD 14-35 and 14-36 be amended to include the appropriate references to this document.

GUIDING PRINCIPLES FOR PROMOTION OF CLINICAL FACULTY

(Information regarding promotion and tenure guiding principles for non-clinical faculty can be found in SD 14-35)

PFW is a comprehensive university that is committed to maintaining a standard of excellence for teaching, scholarship and/or creative endeavor, and service in its diverse programs, departments, and schools/colleges. Maintaining this standard can be accomplished only by employing and promoting clinical faculty who share this mission.

The most important decisions in the academic profession, for clinical faculty and for the institution, regard the awarding of promotion. Promotion is recognition of past achievement.

Clinical faculty provide invaluable contributions to the University community, its students, and the community at-large. It is through promotion that the University rewards those contributions. Retaining clinical faculty who are focused on blending theoretical and clinical knowledge, who provide practical instruction and the application of practical knowledge, and who are more oriented to practice than to scholarship and/or creative endeavor ensures the University is able to meet its mission.

Significant diversity exists with respect to the needs and goals of programs, and the ways in which clinical faculty contribute to the university. Such diversity is essential to the intellectual health of the university and its success in meeting its mission. At the same time, pursuit of the university's mission and goals unifies all programs and gives a sense of shared purpose while preserving and fostering diversity of work. This document lays out guiding principles that are reflective of the university's mission, vision, goals, and values. Departments must define criteria for promotion for their clinical faculty that are appropriate for their respective disciplines, but that are also in keeping with these guiding principles.

The awarding of promotion is the university's recognition that individual clinical faculty members have successfully met their department's criteria, and in so doing, have worked to advance the university's mission and goals. Promotion criteria are the standards for summative judgment, and as such, must be guidelines for clinical faculty development. Departments must develop their own promotion policies, defining criteria for excellence and competence in teaching, scholarship and/or creative endeavor, and service at all levels. A department's policy should define what the department means by "teaching," "scholarship and/or creative endeavor," and "service," and list activities and achievements properly associated with those terms, along with qualitative standards by which they may be judged.

The promotion policies developed by each department must be clear, meaningful, and include criteria for being promoted. They must be consistent in content with the guiding principles laid out in this document. The promotion policies and criteria adopted by a department must be used uniformly as the only standard by which to judge cases for promotion from that department.

All candidates for promotion to Associate Clinical Professor or Clinical Professor must

demonstrate excellence in teaching, scholarship and/or creative endeavor, or service. Candidates must choose to demonstrate excellence in only one category. All candidates must also demonstrate competence in one other category. Associate Clinical Faculty may seek promotion after five years in-rank.

TEACHING

PFW faculty are expected to demonstrate a significant and ongoing commitment to advancing student learning and fostering student success. Such a commitment is reflected, in part, by remaining current in the content and pedagogy appropriate to one's discipline, but is also reflected in the continual consideration of one's own teaching effectiveness. This expectation extends to all faculty who teach, regardless of rank.

Teaching by clinical faculty occurs in a variety of contexts including, but not limited to, credit courses, non-credit programs and workshops, seminars, continuing education programs, and the supervision of the clinical work of student / interns / practicum students. A range of activities that affect student learning – directly and indirectly – should be considered when documenting and evaluating one's teaching effectiveness. Documentation and formative evaluation should take place over time, and be informed by multiple measures that represent multiple perspectives (e.g., students, professional peers, self-evaluation). Demonstrating competency must include input from outside the department which might be on or beyond the campus. Demonstrating excellence must include input from outside PFW.

When teaching is the primary basis for promotion to Associate Clinical Professor, in addition to demonstrating exemplary learning environment teaching, the candidate's performance must clearly exceed the standard of competence in qualitative and quantitative ways.

When teaching is the primary basis for promotion to Clinical Professor, in addition to demonstrating exemplary learning environment teaching, the candidate should have made significant contributions to teaching, pedagogy, and/or instruction outside their department, and/or in the university system, and/or in their discipline that has led them to gain recognition outside PFW appropriate to a faculty member at a regional comprehensive campus for their teaching and/or pedagogical work.

The specific standards of competence and excellence, as well as how they are to be documented and evaluated, shall be established by the department and articulated clearly in their promotion and tenure criteria document.

SCHOLARSHIP AND/OR CREATIVE ENDEAVOR

PFW clinical faculty are expected to maintain currency in their discipline and to engage in professional productivity or scholarship and/or creative endeavors. The specific forms of this work and its reach must be defined by department criteria.

While assessing the professional productivity or scholarly and/or creative contributions of a candidate, some of the factors which may be important in establishing excellence are originality,

significance, depth of consideration, contribution to the discipline, and relevance to the candidate's teaching. The evaluation of professional productivity or scholarly and/or creative contributions by authorities in the field is accomplished by a variety of means. Documentation concerning the frequency of opportunities for such work within the discipline, the stature of the publication, conference / meeting, the selection process (e.g. refereeing), as well as sources of funding may also be important in establishing excellence. Depending upon the discipline and area of endeavor, some combination of several or all of these aspects may be involved in building a case. The quantity of professional productivity or scholarship and/or creative endeavor is a sign of productivity; however, its quality is more important. The judgment of the candidate's work is primarily qualitative and it cannot be reduced to quantitative formulae. In general, the widely accepted evaluation practices within the discipline will determine what evidence a candidate includes in a promotion case. Demonstrating competence must include input from outside the department which might be on or beyond the campus. Demonstrating excellence must include input from outside PFW.

When professional productivity or scholarship and/or creative endeavor is the primary basis for promotion to Associate Clinical Professor, the candidate should have demonstrated appropriate achievement beyond the terminal degree as appropriate for the discipline and as noted in the department's criteria document.

When scholarship and/or creative endeavor is the primary basis for promotion to Clinical Professor, the candidate should have gained national or international recognition appropriate to a faculty member at a regional comprehensive campus for his or her work.

The specific standards of competence and excellence, as well as how they are to be documented and evaluated, shall be established by the department and articulated clearly in their promotion and tenure criteria document.

SERVICE

PFW faculty at all ranks are expected to take an active role in the campus beyond teaching and scholarship and/or creative endeavor; they are encouraged to contribute their expertise on a community, regional, national, and/or international level and/or to participate in professional organizations. For clinical faculty this can be a significant, and maybe even primary, part of their appointment.

Department criteria should distinguish between professional activities (those related to the faculty member's discipline or assigned university duties, or to the mission of the university) and nonprofessional activities (those not so related). If a candidate wishes to introduce evidence of service beyond the scope of the department criteria, it is the responsibility of the candidate to demonstrate the relevance of such service to his/her profession, disciplinary area, and/or role as a faculty member at PFW. The evidence to demonstrate excellence should include both quantity and quality of the service. The evaluation of service as excellent by authorities beyond the campus is accomplished by a variety of means. Demonstrating excellence must include input from outside PFW.

Unlike non-clinical faculty, clinical faculty are permitted to pursue promotion to Associate Clinical Professor based on excellence in service. When service is the primary basis for promotion to Associate Clinical Professor, the candidate should have demonstrated service well-beyond the expectations of all faculty in that discipline in terms of quality and quantity. The service should be measured qualitatively and quantitatively.

PFW recognizes that promotion to Clinical Professor based on excellence in service is a possibility. If service is the primary basis for promotion to Clinical Professor, it must represent a contribution to the campus, the community, or the profession of significant impact. Significant impact goes beyond simply serving on a large number of committees or serving on particular committees for extended periods of time.

The specific standards of competence and excellence, as well as how they are to be documented and evaluated, shall be established by the department and articulated clearly in their promotion and tenure criteria document.

MEMORANDUM

TO: Fort Wayne Senate

FROM: L. Wright-Bower, Chair
Educational Policy Committee and General Education Subcommittee

DATE: November 6, 2017

SUBJ: Approval of replacement members of the Educational Policy Committee and the
General Education Subcommittee

DISPOSITION: To the Presiding Officer for implementation

WHEREAS, The Bylaws of the Senate provide (5.1.2.) that "... Senate Committees ... shall have the power to fill Committee vacancies for the remainder of an academic year, subject to Senate approval at its next regular meeting"; and

WHEREAS, There is one vacancy on the Educational Policy Committee; and

WHEREAS, The Educational Policy Committee has appointed Prasad Bingi as the replacement member for the remainder of the 2017-18 academic year; and

WHEREAS, There is one vacancy on the General Education Subcommittee; and

WHEREAS, The General Education Subcommittee has appointed Shannon Johnson as the replacement member for the remainder of the 2017-18 academic year;

BE IT RESOLVED, That the Senate approve these appointments.

Question Time

Has there been a systematic study done to assess the impact of dual credit on IPFW students? If not, would it be possible for Office of Institutional Research to carry out such a project? If yes, where can we see the results?

From talking to other faculty who have been at IPFW for a while, there is anecdotal evidence that our students are becoming less and less prepared to deal with challenges of 100- and 200-level classes. Anecdotal evidence suggests that dual credit may be responsible for this—students bypass IPFW-based introductory classes and miss out on important content knowledge and introduction to college study skills. Even if students receive the necessary content knowledge, they are not prepared for the kind of independent work required/expected at the college level.

We also have students who take their introductory classes at Ivy Tech to “save money,” and then transfer to IPFW. They often don’t have any introductory classes left to take, and often find themselves struggling in upper level classes.

Since anecdotal data is not real data, it would be nice if we could have some data to get a better understanding of the situation.

For example, it would be nice to see how a student who took the first class in a formal sequence through dual credit or at Ivy Tech did in subsequent classes in the sequence. This can be checked by looking at the Math sequences (exploring a number of different possible paths), English sequence (ENG W131 and ENG W233), Spanish sequence, and possibly the science sequences (if appropriate).

In addition to these formal sequences, it would be nice to see how students did in disciplines without strict sequences (PSY 120 and upper level Psychology classes; 100-level History class and upper level History classes; 100-level POLS class and upper level POLS classes, etc.)

It would also be good to analyze the dual credit impact taking into account the university through which dual credit was done, so we can differentiate dual credit through IPFW from other institutions.

If the data shows that students do better in more advanced classes if they take introductory classes at IPFW (rather than dual credit or Ivy Tech), and/or students are better prepared for upper level classes after doing their dual credit through IPFW rather than other local colleges, this may give us “ammunition” to help promote IPFW to local area students. This is particularly important, since at least some of our enrollment problems are due to students not taking classes with IPFW because they already have done them through dual credit.

(I realize that part of the problem is the Core Transfer Library and our findings are unlikely to do anything with that. But we would still be able to promote our classes as being more effective at preparing students.)

A. Livschiz

Question Time

Has there been a systematic study done to see if there is any relationship between retention success and online vs f2f classes in the students' freshman year (especially first semester)? If not, would it be possible for Office of Institutional Research to carry out such a project?

Again, anecdotal evidence suggests that freshmen *think* that they will do better with online classes because of flexibility, but end up withdrawing or failing online classes. Having data on this subject may help with advising during A&R days.

A. Livschiz

TO: Fort Wayne Senate

FROM: Swathi Baddam,
Chair, Curriculum Review Subcommittee

DATE: October 10, 2017

SUBJECT: Proposal for B.S. in Psychology

The Curriculum Review Subcommittee met on October 6, 2017 to review the attached proposal #81 for a B.S. in Psychology.

The committee approved the proposal unanimously and therefore find that it requires no Senate review.

Approved**Opposed****Abstention****Absent**

S. Baddam
C. Duncan
V. Maloney
A. Montenegro
S. Skekloff
J. Smith
K. White
M. Yamada
J. Yoo

Degree/Certificate/Major/Minor/Tracks/Specialization/Concentration Cover Sheet

Date:

Institution: Purdue

Campus: Fort Wayne

School or College:

Department:

Location: 50% or more online: Yes No

County:

Type:

Program name:

Graduate/Undergraduate:

Degree Code:

Brief Description:

Rationale for new or terminated program:

CIP Code:

Name of Person who Submitted Proposal:

Contact Information (phone or email):

Undergraduate Academic Program Memo

Date: 7/28/17
From: Carol Lawton, Chair, Psychology
To: Eric Carl Link, Dean, College of Arts & Sciences
Re: Proposed B.S. Degree in Psychology

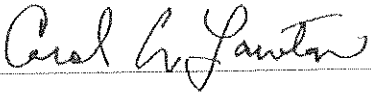

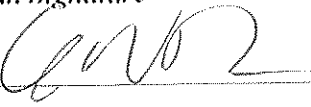
Brief description of the program:

The B.S. degree will emphasize the development and implementation of scientific skills. Students will be required to complete an applied course in psychology that provides hands-on experiences and evidence-based approaches (this type of experience is optional in our current B.A. program). The B.S. degree also will provide more STEM-related coursework in fulfillment of College of Arts & Sciences requirements than does our B.A. degree.

Brief rationale for program request:

The B.S. in psychology will provide students with a stronger science and math background than the current B.A., in keeping with the recognition of psychology as an empirical science (National Academy of Sciences, NSF, AAAS) and with the offering of B.S. programs in many psychology departments in Indiana and nationwide. It also will directly benefit students, as jobs and graduate programs in psychology increasingly emphasize STEM-related skills.

CIP Code: 42.2799

	7/28/17
<i>Department Chair Signature</i>	<i>Date</i>
	7/31/17
<i>School Dean Signature</i>	<i>Date</i>
	10/9/17
<i>Vice Chancellor for Academic Affairs Signature</i>	<i>Date</i>

Please email academic_programs@ipfw.edu with questions about this form.
Send signed original to Carol Sterberger, Kettler Hall, Room 174

Program Description

B.S. in Psychology to be Offered by Indiana University Purdue University Fort Wayne

1. Characteristics of the Program

- a. Campus Offering Program: Indiana University Purdue University Fort Wayne (IPFW)
- b. Scope of Delivery: Specific site—IPFW
- c. Mode of Delivery: Classroom, Blended, and Online
- d. Other Delivery Aspects: Laboratory
- e. Academic Unit(s) Offering Program: Psychology Department

2. Rationale for the Program

- a. Institutional Rationale (Alignment with Institutional Mission and Strengths)

The Department of Psychology at IPFW has devoted considerable time and effort in recent years reviewing and revising our program and curriculum in order to best serve our students, accurately reflect the objectives of the department and campus at large, and be consistent with the broader goals of our discipline. To this end, we seek to further reinforce our emphasis on the scientific foundation of our discipline. As part of these efforts, we would like to provide our students with the opportunity to pursue a Bachelor of Science (B.S.) degree. We assert that the proposed B.S. degree will be consistent with our departmental and institutional goals, will be of benefit to our students, and will most clearly reflect the discipline of psychology as a whole. It also will allow our students to more easily have a second major in biology, chemistry, computer science, and the other social sciences.

Our basic rationale can be summed up as follows: B.S. degrees emphasize science. Psychology is a science. The field in general and our department in particular, especially in recent decades, emphasize the critical importance of scientific thinking, empirical research methods, and quantitative data analysis and interpretation. These skills are essential for students of psychology who wish to pursue graduate training or obtain a job that involves critical thinking, technical work, data analysis, or the interpretation of quantitative information. Therefore, it makes sense for our department to offer a B.S. degree.

In addition, many psychology departments are switching their Classification of Instructional Programs (CIP) codes from 42.0101, General Psychology, which emphasizes the study of behavior and the analysis and treatment of behavior problems and disorders, to 42.2799, Research and Experimental Psychology, which covers cognitive, comparative, developmental, experimental, personality, physiological, social, quantitative, and psychopharmacology. This move has been advocated by the American Psychological Association's Executive Director for Science (Breckler, 2014) and others (e.g., Weir, 2015) because it more accurately reflects contemporary psychology and is more aligned with the APA Guide for Undergraduate Education. It is additionally critical because neither the federal government nor most institutions of higher education classify the General Psychology code as a STEM field, but they do classify the Research and Experimental Psychology code as a STEM field. We propose to use the Research and Experimental Psychology code (42.2799) for the B.S. in Psychology degree.

It is the mission of IPFW to “provide local access to globally recognized baccalaureate and graduate programs that drive the intellectual, social, economic, and cultural advancement of our students and our region” (IPFW Mission Statement, <https://www.ipfw.edu/dotAsset/d4a43e12->

69e1-4101-bc43-3684c0af4324.pdf). The proposed B.S. in psychology will bring to IPFW students a degree option that is available in leading universities across the country, including Yale University, Duke University, University Of California-Los Angeles, University of Illinois, Purdue University, Indiana University, IUPUI, Ohio State University, Michigan State University, University of Minnesota, University of North Carolina, Carnegie Mellon University, University of Kentucky, and many others. Also, with the sociocultural push toward STEM education, it will be advantageous for IPFW to offer an additional STEM degree.

Three of the four broad goals of IPFW's Plan 2020 are (1) Foster Student Success, (2) Promote the Creation, Integration, and Application of Knowledge, and (3) Serve as a Regional Intellectual, Cultural, and Economic Hub for Global Competitiveness (2014-2020 Strategic Plan, <https://www.ipfw.edu/dotAsset/d4a43e12-69e1-4101-bc43-3684c0af4324.pdf>; also shown in Appendix 1). Our proposed B.S. degree is consistent with these goals. Obtaining a B.S. degree in Psychology not only makes sense in terms of the discipline's trajectory and our departmental goals, but it also can directly benefit our students. Jobs and graduate programs in psychology increasingly emphasize STEM-related skills (Jang, 2015; Price, 2012). Scientific occupations tend to provide a relatively high income and social status (Xie & Killewald 2012; U.S. Congress Joint Economic Committee, 2012). Pursuing a science degree may also provide a relatively robust path for individual upward mobility, especially for persons from traditionally disadvantaged groups (Xie, Fang, & Shauman, 2015).

The proposed B.S. degree in Psychology will emphasize undergraduate research, which is considered to be a LEAP high impact practice that fosters student success (<https://www.aacu.org/leap/hips>). The B.S. degree also will provide more STEM-related coursework outside of the major than does our B.A. degree. Providing our students with a stronger science and math background can benefit our region. Scientific education has always played a crucial role in the advancement of American society, regionally and nationally, and that trend continues (Xie, Fang, & Shauman, 2015). The past 25 years has witnessed an increased effort in the U.S. to boost STEM-related disciplines (Eisenhart, Weis, Allen, Cipollone, Stich, & Dominguez, 2015). Despite these efforts, the number of students with STEM-related degrees are not keeping up with the occupational demand (U.S. Congress Joint Economic Committee, 2012). Hence, there is good evidence that our proposed B.S. degree will foster the success of our students, promote the creation, integration and application of knowledge, and benefit our region.

One of the strengths of IPFW in general and the Department of Psychology in particular, is the mentoring and support of undergraduate student research experiences. For example, the campus holds an Annual Research and Creative Endeavors Symposium whereby students disseminate the results of their research activities. The Department of Psychology routinely has a large number of students at the symposium and our students have won several awards in recent years. The department rightly prides itself in providing students with in-depth research mentoring and laboratory experiences. The institution has supported our efforts in this direction by providing us in recent years with additional laboratory space and by renovating existing laboratory space. A strength of the department of psychology is the large number of faculty who have active programs of research and provide psychology students with a wide-range of research opportunities. With the support of the institution as a whole, the College of Arts and Sciences, and the department, a group of psychology students travel to Chicago each year to present research at the Annual Meeting of the Midwest Psychological Association. In sum, a strength of the institution and department is that we provide our students with meaningful and valuable "hands-on" research opportunities and direct mentoring experiences with faculty. The proposed B.S. emphasizes such experiences and STEM-related coursework and therefore aligns with and builds upon these strengths of the institution and department.

The proposed B.S. degree also aligns with state goals for higher education. One of the main points of the “*Reaching Higher, Achieving More*” document is that Indiana must have one of the “...most student-centered higher education systems in the country.” Our proposed B.S. degree, with its focus on student-research experiences and faculty-student mentoring, is consistent with this aspiration. To earn a B.S. in psychology, students will be required to complete an applied course in psychology (e.g., supervised research assistantship, advanced lab course) that provide our students with hands-on experiences and close faculty supervision using evidence-based approaches related. This type of experience is optional in our current B.A. program. We believe that the personalized approach in an applied class will help raise our retention and graduation rates, which are also central to the Reaching Higher, Achieving More goals. There is, in fact, quite a bit of research on how mentoring and experiential learning in college boosts learning, retention, graduation rates, and post-graduation success. (e.g., <https://www.insidehighered.com/views/2014/09/25/essay-about-importance-mentors-college-students>; Rhodes, 2008).

Another major emphasis of the “Reaching Higher, Achieving More” document is “Producing quality college degrees and certificates that are valued by students and employers.” More than half of our current psychology majors say that they would, if given the opportunity, pursue the proposed B.S. degree. It is notable that IU Southeast recently (2011) initiated a B.S. degree in psychology, and the success of the program has exceeded their expectations. Dr. Diane Wille, the IU Southeast Dean for Research and Psychology Program Coordinator, provided us with institutional data demonstrating this positive outcome. Enrollments in the B.S. degree have increased every year since it was introduced: Ns = 49 (2011), 143 (2012), 180 (2013), 190 (2014), and 238 (2015). In fact, more psychology students now prefer the B.S. degree over the B.A. degree (Ns = 238 vs. 183 in 2015) even though the BS degree was not specifically promoted. As stated by Dr. Wille, “The data shows the huge interest in the BS degree and its very quick growth.” She goes on to point out that this growth is especially impressive: “. . . since 2011 our institutional enrollment has been decreasing (7,256 students in 2011 to 6,173 in 2015). The fact that Psychology has actually increased number of majors during this time period shows the strength of the BS degree.” This growth as a function of adding the B.S. option is apparently not limited to IU Southeast, as Dr. Wille also indicated that “One other IU regional campus had a similar experience with rapid growth in the BS degree.”

b. Evidence of Labor Market Need

i. National, State, or Regional Need

The US Bureau of Labor Statistics projects sustained growth for jobs in the sciences and other STEM fields, and larger growth relative to other occupations (U.S. Congress Joint Economic Committee, 2012). Internationally, the US continues to fall behind many other countries in science-related skills, scores, and occupations. For example, “. . . NAFTA members Canada and Mexico, and many European nations including economic powerhouse Germany, graduate more STEM students as a share of all degrees than the United States does.” (U.S. Congress Joint Economic Committee, 2012, p. 6). It is not surprising then that the past 25 years has witnessed an increased effort in the U.S. to boost STEM-related disciplines (Eisenhart, Weis, Allen, Cipollone, Stich, & Dominguez, 2015). Despite these efforts, the number of students with STEM-related degrees are not keeping up with the occupational demand (U.S. Congress Joint Economic Committee, 2012). Our B.S. degree will help address this need.

The Indiana Business Review (2015) recently published economic projections for the Fort Wayne region and for the state of Indiana using STATS Indiana and Census of Employment and Wages data from the U.S. Bureau of Labor Statistics. According to this publication,

employment in “Professional, Scientific, and Technical Services” will continue to grow in the Fort Wayne region at a moderately healthy rate of 3.2%, and for the state of Indiana at relatively strong rate of 4.2% (<http://www.ibrc.indiana.edu/ibr/2015/outlook/fortwayne.html>). In another recent analysis of STEM-related degrees and innovation and knowledge growth in Indiana, Zheng, Slaper, and Nguyen (2016), argue that “Hoosiers, however, can feel pretty good that STEM density trumps population density. Maintaining this advantage should be on the screen of policymakers in the state.” Numerous research reports point out that the types of skills and experiences our proposed B.S. degree will emphasize – critical thinking, problem-solving, hands-on training, the interpretation of data, decision-making skills, and the like – are desired and needed at regional, state, and national level in order to maintain and increase a competitive edge in the workplace and global market.

ii. Preparation for Graduate Programs or Other Benefits

Psychology is a broad discipline that includes such areas as neuropsychology, cognitive psychology, clinical psychology, social psychology, biopsychology, developmental psychology, psychometrics, industrial/organizational psychology, psychopharmacology, and behavioral genetics. Psychologists in each specialty area use scientific methods to make new discoveries, or they apply scientific theories and findings to concrete real-world situations. An analysis of citations involving over one million articles published in more than 7000 scientific journals confirmed that psychology is one of seven hub sciences (Boyack, Klavans & Börner, 2005; Cacioppo, 2007). This means that psychology has many interdisciplinary linkages (e.g., psychology works as a link between medicine and neurology) and is a discipline in which scientific research is cited by scientists in many other fields.

The proposed B.S. degree will clearly prepare our students for graduate programs in psychology, which, with few exceptions, emphasize scientific training and the discovery of new knowledge. Recent decades have witnessed a concentrated effort to develop and implement evidence-based practices in the areas of clinical and counseling psychology. For example, as expressed in the mission statement of the Academy of Psychological Clinical Science, “The Academy’s emphasis on the term science underscores its commitment to empirical approaches to evaluating the validity and utility of testable hypotheses and to advancing knowledge by this method.” (Academy of Psychological Clinical Science, 2016, p. 1). In 2005 the American Psychological Association formally adopted a policy stressing the importance of using evidence-based therapies (Levant, 2005) and in 2011, the Delaware Project was launched to align psychological clinical science training with a spectrum of research activities (Barlow, Bullis, Comer, & Ametaj, 2013; The Delaware Project, 2016).

In sum, our proposed B.S. degree in psychology emphasizes the development and implementation of scientific skills and thus will clearly prepare our students for graduate study in psychology and related fields of scientific study.

iii. Summary of Indiana DWD and/or U.S. Department of Labor Data

Our proposed B.S. degree would directly lay the foundation for eight of the “Hoosier Hot 50 Jobs” (see Appendix 2, taken from <http://www.hoosierdata.in.gov/FD/overview.aspx>): (1) Training and Development Specialists, (2) Market Research Analysts, (3) Clinical, Counseling, and School Psychologists, (4) Educational, Vocational, and School Counselors, (5) Child, Family, and School Social Workers, (6) Postsecondary Teachers, (7) Occupational Therapists, and (8) Occ. & Physical Therapist Assistants & Aides. Some of the positive-growth jobs for the U.S., the state of Indiana, and our region (EGR3) that are most directly related to our proposed B.S. degree in psychology include:

Clinical, Counseling, and School Psychologists; Survey Researchers; Psychologists (other); Social Scientists and Related Workers; Substance Abuse & Behavioral Disorder Counselors; Social Science Research Assistants; Educational, Vocational, and School Counselors; Human Resources Specialists; Operations Research Analyst; Social Science Technicians; Marriage and Family Therapists; Psychology Teachers; Mental Health Counselors; Rehabilitation Counselors; Occupational Therapists; Recreational Therapists; Psychiatric Technicians; Athletic Trainers; Probation Officers & Correctional Treatment Specialist; Child, Family, and School Social Workers; Genetic Counselors; Market Research Analysts; Social and Human Service Assistants; Psychiatric Aides; Animal Trainers; and Statistical Assistants. As shown in Appendix 2, a very similar outlook is projected for our local state region, EGR3.

As noted above, our proposed B.S. degree is best conceptualized as a STEM program. For the state of Indiana, the 10-year growth rate for STEM jobs is estimated at 14.6% for students with a Bachelor’s degree, and 17.6% for students with an “advanced” degree. For the U.S. overall, the 10-year growth rate for STEM jobs is estimated at 10.3% for students with a Bachelor’s degree, and 14.5% for students with an “advanced” degree.

Appendix 2 shows the detailed tables of labor market demand from the Indiana DWD and U.S. Department of Labor, with the job titles relevant to a B.S. in Psychology highlighted.

iv. National, State, or Regional Studies

As summarized in the previous section, analyses of data from STATS Indiana and the U.S. Bureau of Labor Statistics indicate a highly favorable labor market need for students who acquire the foundational science skills that our proposed B.S. degree will emphasize.

v. Surveys of Employers or Students and Analyses of Job Postings

Survey of students. During February 7-15, 2017, a sample of psychology majors was given a brief survey to determine student demand for the proposed B.S. program. The survey was administered in classes taken primarily or exclusively by majors (PSY 14000, PSY 20300, PSY 32900, PSY 416000, PSY 44100, PSY 54000). The survey included a summary of curricular differences between the proposed B.S. program and existing B.A. program, followed by a question asking students to indicate which program they would have chosen if both had been options when they first began the major. Approximately two-thirds of the respondents indicated they would choose the B.S. program and one-third indicated they would choose the B.A. program. The results are shown in the following table.

	Frequency (n = 139)	Percent
Extremely probable I would have selected the B.S.	54	38.8%
Quite probable I would have selected the B.S.	32	23.0%
Slightly probable I would have selected the B.S.	10	7.2%
Total selecting the B.S.	96	69.0%
Extremely probable I would have selected the B.A.	16	11.5%
Quite probable I would have selected the B.A.	21	15.1%
Slightly probable I would have selected the B.A.	6	4.3%
Total selecting the B.A.	43	30.9%

In conclusion, the results clearly suggest that our proposed B.S. degree would be popular amongst IPFW psychology students. It is notable that this survey data is consistent with the actual popularity of the B.S. degree in psychology at IU Southeast, where it was introduced in 2011. In fact, at that school, more psychology students (56.5% in 2015) now prefer the B.S. degree over the B.A. degree (238 vs. 183).

- vi. Letters of Support (if needed, letters will be obtained from IPFW administrators)

3. Cost of and Support for the Program

- a. Costs

- i. Faculty and Staff

The Department of Psychology currently has 20 full- and part-time faculty (15.25 FTE). The faculty currently in place will be sufficient to offer the proposed B.S. degree. Course offerings within the major are the same for both the proposed B.S. and the existing B.A. programs, but there will be increased emphasis in the B.S. program on research experience. Thus, it will be important to maintain the number of research-active faculty in our department. The proposed B.S. also will have a greater emphasis than the B.A. on STEM-related coursework outside the major, involving choices from existing course offerings already in place outside of the major.

Appendix 3 shows Psychology faculty with appointments in the existing B.A. program; they would also teach in the proposed B.S. program.

- ii. Facilities

Offering the B.S. program will have no impact on renovations of existing facilities or need for new capital projects or new space. The institution has in recent years supported the department with additional laboratory space and renovation of existing laboratory space. We have sufficient space to support the large number of faculty who have active programs of research that can provide psychology students in the proposed B.S. program with a wide-range of research opportunities.

- iii. Other Capital Costs (e.g. Equipment)

Offering the B.S. program will have no impact on other capital costs.

- b. Support

- i. Nature of Support (New, Existing, or Reallocated)

The proposed B.S. program will not require any reallocation of resources or downsizing of other programs. As noted previously, the B.S. program is based on course offerings within the major already existing for the B.A. program in Psychology and course offerings outside of the major already offered by other departments.

- ii. Special Fees above Baseline Tuition

There are no special fees above baseline tuition that are needed to support the proposed B.S. program.

4. Similar and Related Programs

- a. List of Programs and Degrees Conferred

- i. Similar Programs at Other Institutions

Other campuses that offer a B.S. in Psychology in Indiana include Purdue University-West Lafayette, Indiana University-Bloomington, and Indiana University Purdue (both B.S. and B.A.), University Indianapolis (both B.S. and B.A.), IU Southeast (both B.S. and B.A.), and Ball State University (both B.S. and B.A).

- ii. Related Programs at the Proposing Institution

The existing Bachelor of Arts (B.A.) degree in Psychology will continue to be offered. It allows more flexibility within the major than does the proposed B.S. degree, and it has a greater focus on foreign languages as opposed to the natural sciences. The B.A. degree may better serve the needs of students who wish to focus more on the social aspects of the study of human behavior and psychological function, and who are preparing for careers in social services. The B.A. program will better serve students who wish to obtain a second major in Sociology, Anthropology, or other B.A. programs. The B.S. program will better serve students who wish to obtain a second major in the natural sciences, such as Biology.

- b. List of Similar Programs Outside Indiana

B.S. programs in Psychology are commonly offered at universities nationwide. Examples from contiguous states include University of Illinois at Urbana-Champaign, The Ohio State University (both B.S. and B.A.), and Michigan State University (both B.S. and B.A.).

- c. Articulation of Associate/Baccalaureate Programs

The current articulation agreement with Ivy Tech for our B.A. program will apply also to the proposed B.S. program. In this agreement, 60 of the associate degree credits will transfer and apply toward the baccalaureate program. The articulation agreement is shown in Appendix 4.

- d. Collaboration with Similar or Related Programs on Other Campuses

Offering the proposed B.S. program will not involve any collaborative arrangements with other programs.

5. Quality and Other Aspects of the Program

- a. Credit Hours Required/Time To Completion

The program requires 120 credit hours, which can be completed in four years, assuming full-time study. The program requirements and semester-by-semester academic plan for the B.S. are shown in Appendix 5.

b. Exceeding the Standard Expectation of Credit Hours

The B.S. program does not exceed 120 semester credit hours.

c. Program Competencies or Learning Outcomes

1. Students will demonstrate knowledge of the major theoretical approaches, findings, and historical trends in psychology.
2. Students will demonstrate the ability to understand and use the major research methods in psychology, including design, data analysis, and interpretation.
3. Students will demonstrate the ability to think critically and to use the scientific approach to understanding behavior.
4. Students will demonstrate an understanding of the values that are the underpinnings of psychology as a science (e.g., value of empirical evidence, tolerance for ambiguity, ethics in research, teaching, and practice).
5. Students will demonstrate the ability to apply concepts, information, and skills learned in psychology courses to their lives and work.
6. Students will demonstrate the ability to effectively locate and evaluate sources of information.
7. Students will demonstrate the ability to express themselves effectively in the discourse of the discipline.
8. Students will demonstrate the ability to understand people from a diverse range of backgrounds and varying demographic characteristics such as age, race, disability, sexual orientation, class, ethnicity, religion, and cognitive abilities.
9. Students will demonstrate the ability to make decisions about future employment or graduate education.

d. Assessment

Assessment Instruments

1. Major Field Test in Psychology (measures goals 1 & 2): The Major Field Test (MFT) is a nationally-normed test measuring content knowledge in the discipline of psychology (and is available for many other disciplines), constructed and scored by the Educational Testing Service (ETS). Students will be required to take the Major Field Test in their senior year, and to score above a certain minimum score in order to be certified to graduate.
2. Evaluation of Papers (measures goals 3, 5, and 6): Graduating seniors will be required to submit research papers from two upper-level courses required in the major, PSY 32900-Psychobiology and PSY 41600-Cognitive Psychology. Every three years, a sample of 30 of these papers will be selected randomly from the preceding three years' papers, and will be evaluated using rubrics and a scale developed for this purpose.
3. Survey of Majors (may measure any of the goals of the B.S. degree. It will always include items to measure goals 4, 7, & 8): The department will conduct a survey of a random sample of at least 35% of currently enrolled majors every three years and at the time of departmental program review. This survey will assess students' evaluation of many aspects of their education, and their satisfaction with the program and services provided by the department.
4. Survey of Alumni (may measure any of the goals): At the time of departmental program review (typically on a 7-year cycle) the department will undertake a survey of alumni. This survey will be constructed to meet departmental needs at the time of program review, and may measure any of the goals above.

The department will report on progress annually. Each of the measures above will be reported and analyzed in a three-year cycle, focusing particularly on the information gained from the measure about how the program is meeting the goals outlined above.

e. Licensure and Certification

Bachelor's degrees in psychology do not prepare graduates earn specific state licenses, national professional certifications, or third-party certifications.

f. Placement of Graduates

The principle occupations in which the majority of graduates are expected to find employment are in behavioral health and other fields that require an understanding of human behavior and ability to interpret quantitative data, such as Survey Researcher; Substance Abuse & Behavioral Disorder Counselor; Social Science Research Assistant; Vocational Counselor; Human Resources Specialist; Operations Research Analyst; Social Science Technician; Psychology Teacher; Mental Health Caseworker; Rehabilitation Counselor; Psychiatric Aide; Athletic Trainer; Probation Officer & Correctional Treatment Specialist; Child, Family, and School Social Worker; Market Research Analyst; Social and Human Service Assistant; Child Welfare Placement Caseworker; Preschool Teacher; Animal Trainer; Statistical Assistant; Veterans Counselor; Victims' Advocate.

The principle kinds of graduate programs in which some graduates of the B.S. program are expected to be admitted include areas of psychology and related fields that require an understanding of the biological and biochemical bases of behavior and mental function, such as neuroscience, clinical psychology, medicine, and physical therapy.

g. Accreditation

There is no accrediting body for this program.

6. Projected Headcount and FTE Enrollments and Degrees Conferred

The projected headcount, FTE enrollment, and degrees conferred are shown in the following table. The projections are based on the number of psychology majors in 2015-16 and assume that 60% of psychology majors will elect to pursue the B.S. degree.

Projected Headcount and FTE Enrollments and Degrees Conferred									
Institution/Location: Purdue Univ/Fort Wayne									
Program: Psychology B.S.									
				Year 1	Year 2	Year 3	Year 4	Year 5	
				FY2019	FY2020	FY2021	FY2022	FY2023	
Enrollment Projections (Headcount)									
	Full-			45	90	134	179	179	
	Part-Time			10	20	31	41	41	
	Total			55	110	165	220	220	
Enrollment Projections (FTE)									
	Full-			37	75	112	150	150	
	Part-Time			9	17	26	34	34	
	Total			46	92	138	184	184	
Degrees Conferred Projections				11	22	33	44	44	
CHE Code:									
Campus Code:									
County: Allen									
Degree: B.S.									
CIP Code: 42.2799									

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Appendix 1

IPFW strategic plan: Plan 2020

MISSION

Indiana University-Purdue University Fort Wayne 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.

VISION

IPFW will be the university of choice for the citizens of northeast Indiana and beyond. It will be recognized for a transformative learning environment characterized by intensive mentoring, excellence in faculty scholarship and knowledge creation, integration of life and work experiences, and community engagement. IPFW will be known for exceptional retention, persistence, and graduation rates, respected signature programs, and graduates prepared to improve the quality of life in their communities as well as compete locally, regionally, and globally.

VALUES

IPFW values:

- Access to affordable and high-quality programs and services.
- The integrity, significance, and value of the Indiana University and Purdue University degrees.
- An environment of open intellectual inquiry, mutual respect, shared governance, and civility.
- An environment that enhances learning by recognizing the inherent worth of all individuals and celebrating differences of culture, background, and experience among all individuals and groups.
- The highest ethical standards of equity, fairness, transparency, and academic integrity.
- A multifaceted and mutually beneficial collaboration with Fort Wayne and the greater northeast Indiana region.



GOALS

Foster Student Success

A. Process Goal: Improve measurement of student learning.

1. Improve quality and fidelity of assessment processes of degree/certificate programs, General Education program, and Baccalaureate Framework with dedicated resources.
2. Use assessment data to improve student learning.

B. Process Goal: Increase student engagement.

1. Increase opportunities for engaged and experiential learning including service learning and internship programs.
2. Expand impact and profile of Honors Program.
3. Expand number of degree programs that have gateway courses.
4. Expand use of high-impact instructional and advising interventions.
5. Transform the concept of the college classroom and the delivery of education.

C. Process Goals: Increase interdisciplinary and graduate programs and internationalization of the curriculum.

1. Develop and promote interdisciplinary programs where there are sufficient university assets available and anticipated employment needs.
2. Review, prioritize, and expand international agreements.
3. Promote academic programs for international market.
4. Expand support for international students.
5. Invest in academic programs with international curricula.
6. Increase support programs for international study for domestic students.
7. Establish links between baccalaureate and post-baccalaureate programs.
8. Respond to regional demand with appropriate post-baccalaureate credentials.

D. Process Goal: Increase the diversity of the IPFW community.

1. Develop activities and experiences that promote multiculturalism as a value.
2. Embrace a definition of diversity that includes a broader array of human differences.
3. Build and strengthen relationships as well as proactive programs and services designed to encourage enrollment of students from historically under-represented groups.
4. Recruit and retain a diverse faculty and staff at all institutional levels.



E. Process Goal: Develop signature programs.

1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
2. Develop activities and experiences that promote success in student achievement through programs with strong student learning outcomes, high graduation rates, and strong job placement prospects.
3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
4. Promote majors and programs with strong job placement opportunities in the region and beyond.

Promote the Creation, Integration, and Application of Knowledge

Process Goals:

- A. Project future regional, national, and international demand for research and collaboration.
- B. Promote mentoring relationships between faculty and students engaged in creation, integration, and application of knowledge.
- C. Promote development of opportunities for faculty and student engagement with the community for the application and integration of knowledge.

Serve as a Regional Intellectual, Cultural, and Economic Hub for Global Competitiveness

Process Goals:

- A. Expand meaningful collaborations and research opportunities with regional, national, and global partners.
- B. Provide access to outstanding intellectual programming.
- C. Produce and sponsor outstanding cultural and artistic programming.
- D. Provide non-credit enrichment experiences for the community.
- E. Provide leadership in regional economic development.
- F. Serve as an exemplar of free and open discourse.



Create a Stronger University through Improving the Support of Stakeholders and the Quality and Efficiency of the Organization

A. Process Goals: Measurement and metrics

1. Prioritize and establish a set of appropriate performance metrics for all academic and non-academic units.
2. Establish an integrated system of program reporting, review, assessment, and accreditation that is aligned to performance metrics.

B. Process Goal: Efficiency

1. Allocate resources to priorities informed by performance metrics.
2. Decentralize resource distribution and control to lowest level, mission-focused administrative units.
3. Eliminate process barriers in enrollment management that impact student achievement.
4. Identify gaps in academic and program offerings and prioritize programs for creation, expansion, merging, or cessation.
5. Continue increasing transparency in resource allocation budget formation, administration, and personnel decisions.

C. Process Goal: Philanthropic support

1. Build infrastructure to support advancement goals and functions.
2. Implement a strategy for sustainable external funding of strategic priorities.
3. Re-envision Foundation Board as fundraising leadership board.
4. Enhance volunteer engagement in support of strategic goals and fundraising.

Appendix 2

Summary of the Indiana DWD Data, demonstrating labor market demand at the national, state, and regional level. The data was retrieved from

<http://www.hoosierdata.in.gov/FD/overview.aspx> on 09/30/2016.

Future Demand: Indiana

Hoosier Hot 50 Jobs

606,675

Employment in 2024

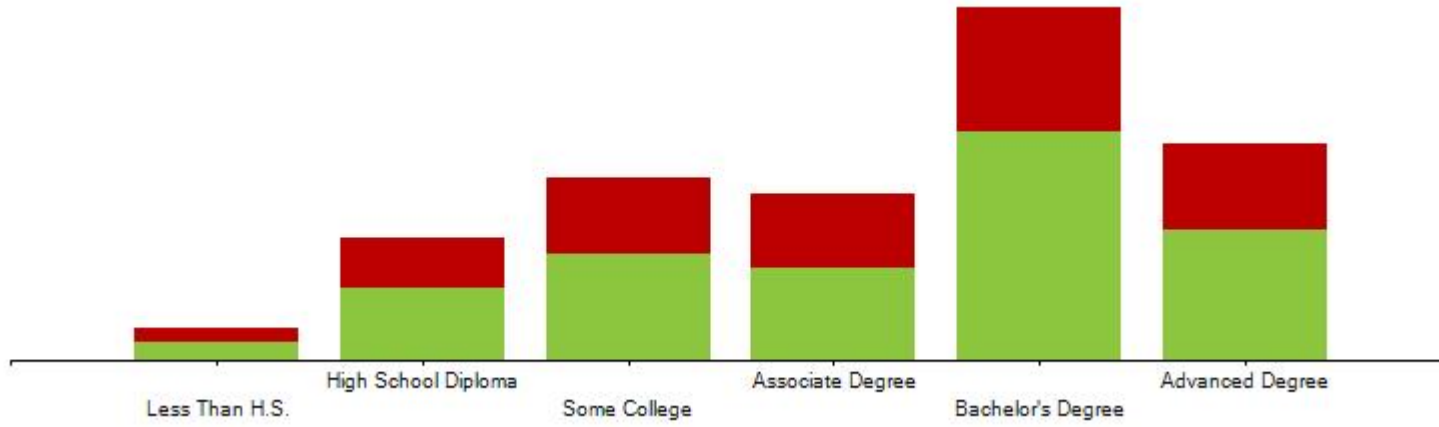
18,336

Average Annual Openings

183,360

Number of Jobs to Fill by 2024

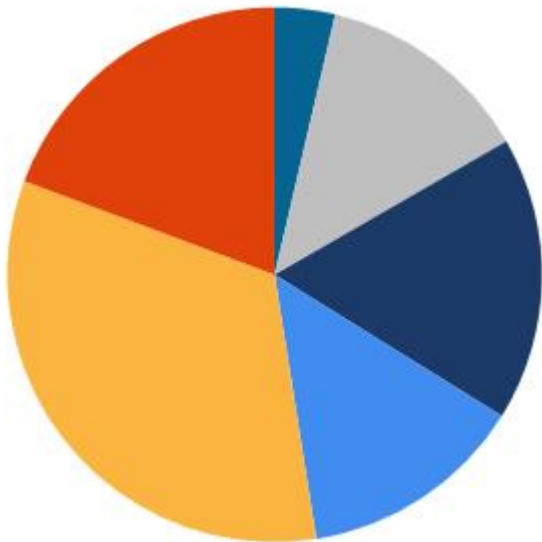
Openings by Educational Requirement



	Total	Less Than a H.S. Diploma	H.S. Diploma	Post Secondary Certificate or Some College	Associate Degree	Bachelor's Degree	Advanced Degrees
Openings for Replacement Jobs	11,077	305	1,223	1,787	1,568	3,856	2,201
Openings for New Jobs	7,259	255	830	1,279	1,243	2,116	1,462
10 Year Growth	13.6 %	13.2 %	11.8 %	14.2 %	17.9 %	11.9 %	14.5 %

Note: Education ratios are approximations based on current O*NET estimates for required level of education. See the [FAQ](#) for more details.

Projected Jobs by Educational Requirement



	All Jobs in	% Dist
Total	606,675	100.0%
Less Than a H.S. Diploma	21,824	3.6 %
H.S. Diploma	78,039	12.9 %
Post Secondary Certificate or Some College	102,821	16.9 %
Associate Degree	81,762	13.5 %
Bachelor's Degree	198,717	32.8 %

Note: Education ratios are approximations based on current O*NET estimates for required level of education. See the [FAQ](#) for more details.

Projected Jobs by Occupation

	Jobs in 2024	% Change	% Dist	
Total	606,675	13.6 %	100.0%	
Construction Managers (119021)	7,839	7.8%	1.3%	
Education Administrators, Elementary & Secondary (119032)	4,330	6.6%	0.7%	
Medical and Health Services Managers (119111)	9,890	19.9%	1.6%	
Cost Estimators (131051)	5,207	12.4%	0.9%	
Management Analysts (131111)	11,802	20.0%	1.9%	
Training and Development Specialists (131151)	5,490	10.9%	0.9%	
Market Research Analysts and Marketing Specialists (131161)	10,381	25.9%	1.7%	
Accountants and Auditors (132011)	24,835	14.2%	4.1%	
Personal Financial Advisors (132052)	4,998	19.2%	0.8%	
Computer Systems Analysts (151121)	9,814	25.2%	1.6%	
Software Developers, Systems Software (151133)	3,864	17.9%	0.6%	
Database Administrators (151141)	1,929	13.1%	0.3%	
Network and Computer Systems Administrators (part) (151142)	7,743	10.8%	1.3%	
Actuaries (152011)	376	15.7%	0.1%	
Biomedical Engineers (172031)	1,611	39.6%	0.3%	
Civil Engineers (172051)	3,317	14.0%	0.5%	
Medical Scientists, Except Epidemiologists (191042)	1,619	14.4%	0.3%	
Clinical, Counseling, and School Psychologists (193031)	2,401	25.3%	0.4%	
Educational, Vocational, and School Counselors (211012)	4,093	9.1%	0.7%	
Child, Family, and School Social Workers (211021)	5,876	9.6%	1.0%	
Postsecondary Teachers (251000)	36,941	12.0%	6.1%	
Primary, Secondary & Special Education Teachers (252000)	70,316	7.0%	11.6%	
Graphic Designers (271024)	4,368	5.5%	0.7%	
Dentists, General (291021)	2,964	14.7%	0.5%	

Optometrists (291041)	1,218	25.8%	0.2%	
Pharmacists (291051)	6,749	5.9%	1.1%	
Physicians and Surgeons, All Other (291069)	11,042	18.5%	1.8%	
Physician Assistants (291071)	1,245	30.9%	0.2%	
Occupational Therapists (291122)	3,206	27.8%	0.5%	
Physical Therapists (291123)	5,769	31.4%	1.0%	
Veterinarians (291131)	1,852	17.1%	0.3%	
Registered Nurses (291141)	70,192	18.9%	11.6%	■
Dental Hygienists (292021)	5,808	14.8%	1.0%	
Radiologic Technologists (292034)	4,759	10.0%	0.8%	
Licensed Practical and Licensed Vocational Nurses (292061)	20,941	13.0%	3.5%	
Occ. & Physical Therapist Assistants & Aides (312000)	4,702	38.1%	0.8%	
Dental Assistants (319091)	6,448	15.1%	1.1%	
Sales Representatives, Services (413000)	32,913	8.6%	5.4%	■
Sales Representatives, Wholesale & Manufacturing (414000)	42,391	8.9%	7.0%	■
First-Line Supervisors of Construction Trades and Extraction Workers (471011)	11,324	12.3%	1.9%	
Boilermakers (472011)	2,020	14.1%	0.3%	
Brickmasons and Blockmasons (472021)	2,802	20.5%	0.5%	
Cement Masons and Concrete Finishers (472051)	5,098	15.7%	0.8%	
Operating Engineers and Other Construction Equipment (472073)	8,756	10.4%	1.4%	
Electricians (472111)	20,011	14.6%	3.3%	
Plumbers, Pipefitters, and Steamfitters (472152)	13,328	13.8%	2.2%	
Heating, Air Conditioning, and Refrigeration Mechanics and Installers (499021)	6,029	17.5%	1.0%	
Industrial Machinery Mechanics (499041)	18,019	25.9%	3.0%	
Heavy and Tractor-Trailer Truck Drivers (533032)	58,049	10.5%	9.6%	■

Source: Indiana Department of Workforce Development, Research & Analysis, Long-term Projections

Employment Outlook Projections for Indiana Click Column Name to Sort

Code	Title	Hot 50	Projected Demand (2024)	Avg. Annual Openings	Avg. Annual New Openings	Percent of Total Openings	Avg. Annual Replacement Openings	Percent of Total Openings	Avg. Annual Wage in (2015)	Current Demand: Online Job Ads (2-mo. avg)
0	Total		3,423,452	107,593	33,413	31.1%	74,180	68.9%	\$42,070	61,043
110000	Management Occupations		181,504	5,394	1,647	30.5%	3,747	69.5%	\$93,600	3,292
111000	Top Executives		45,734	1,384	381	27.5%	1,003	72.5%	N/A	512
111011	Chief Executives		6,517	119	10	8.4%	109	91.6%	\$165,540	45
111021	General and Operations Managers		37,590	1,229	371	30.2%	858	69.8%	\$101,840	467
111031	Legislators		1,627	36	0	0.0%	36	100.0%	\$33,020	N/A
112000	Advertising, Marketing, Promotions, Public Relations, and Sales Managers		12,942	404	112	27.7%	292	72.3%	N/A	1,020
112011	Advertising and Promotions Managers		468	18	4	22.2%	14	77.8%	\$82,340	17
112021	Marketing Managers		3,662	117	40	34.2%	77	65.8%	\$108,050	473
112022	Sales Managers		7,868	231	59	25.5%	172	74.5%	\$112,240	447
112031	Public Relations and Fundraising Managers		944	38	9	23.7%	29	76.3%	\$95,560	83
113011	Administrative Services Managers		3,820	103	39	37.9%	64	62.1%	\$77,180	24
113021	Computer and Information Systems Managers		6,046	155	95	61.3%	60	38.7%	\$108,570	168
113031	Financial Managers		9,786	295	83	28.1%	212	71.9%	\$105,600	374
113051	Industrial Production Managers		7,813	259	53	20.5%	206	79.5%	\$90,710	99
113061	Purchasing Managers		1,691	48	10	20.8%	38	79.2%	\$98,030	84
113071	Transportation, Storage & Distribution Managers		3,342	97	30	30.9%	67	69.1%	\$81,460	99
113111	Compensation and Benefits Managers		316	11	3	27.3%	8	72.7%	\$99,270	30
113121	Human Resource Managers		2,153	79	23	29.1%	56	70.9%	\$103,240	269
113131	Training and Development Managers		707	25	6	24.0%	19	76.0%	\$83,610	19
119000	Other Management Occupations		87,154	2,532	811	32.0%	1,721	68.0%	N/A	910
119013	Farmers, Ranchers, and Other Agricultural Managers		11,785	328	154	47.0%	174	53.0%	\$65,600	9
119021	Construction Managers		7,839	159	57	35.8%	102	64.2%	\$80,430	116
119031	Education Administrators, Preschool & Child Care		1,030	39	13	33.3%	26	66.7%	\$42,590	33
119032	Education Administrators, Elementary & Secondary		4,330	145	27	18.6%	118	81.4%	\$83,390	63
119033	Education Administrators, Postsecondary		3,498	123	30	24.4%	93	75.6%	\$96,910	113
119039	Education Administrators, All Other		363	13	3	23.1%	10	76.9%	\$64,230	5
119041	Architectural and Engineering Managers		4,545	161	32	19.9%	129	80.1%	\$117,130	93
119051	Food Service Managers		7,705	203	60	29.6%	143	70.4%	\$51,060	401
119061	Funeral Service Managers		1,135	29	5	17.2%	24	82.8%	\$74,020	9
119071	Gaming Managers		180	5	1	20.0%	4	80.0%	\$63,340	21
119081	Lodging Managers		1,087	27	8	29.6%	19	70.4%	\$40,670	44
119111	Medical and Health Services Managers		9,890	372	164	44.1%	208	55.9%	\$88,930	981
119121	Natural Sciences Managers		2,177	57	15	26.3%	42	73.7%	\$66,110	91
119131	Postmasters and Mail Superintendents		385	10	0	0.0%	10	100.0%	\$70,930	N/A
119141	Property, Real Estate & Community Association Mgr		5,969	153	59	38.6%	94	61.4%	\$52,450	214
119151	Social and Community Service Managers		2,895	105	39	37.1%	66	62.9%	\$52,920	107
119161	Emergency Management Directors		327	8	4	50.0%	4	50.0%	\$45,390	12
119199	Managers, All Other		22,014	595	140	23.5%	455	76.5%	\$68,940	412
130000	Business and Financial Operations Occupations		129,825	3,858	1,436	37.2%	2,422	62.8%	\$62,560	2,075
131000	Business Operations Specialists		81,216	2,288	899	39.3%	1,389	60.7%	N/A	859
131021	Purchasing Agents and Buyers, Farm Products		389	11	3	27.3%	8	72.7%	\$52,920	4

152041	Statisticians		799	33	23	69.7%	10	30.3%	\$61,310	24
170000	Architecture and Engineering Occupations		56,531	1,814	492	27.1%	1,322	72.9%	\$70,010	1,013
171000	Architects, Surveyors, and Cartographers		3,059	89	27	30.3%	62	69.7%	N/A	31
171011	Architects, Except Landscape and Naval		1,617	44	21	47.7%	23	52.3%	\$76,730	15
171012	Landscape Architects		361	9	4	44.4%	5	55.6%	N/A	2
171021	Cartographers and Photogrammetrists		106	5	3	60.0%	2	40.0%	\$49,490	N/A
171022	Surveyors		975	30	0	0.0%	30	100.0%	\$54,670	13
172000	Engineers		38,968	1,387	405	29.2%	982	70.8%	N/A	548
172011	Aerospace Engineers		97	3	0	0.0%	3	100.0%	\$83,090	27
172031	Biomedical Engineers		1,611	76	46	60.5%	30	39.5%	\$69,990	17
172041	Chemical Engineers		763	23	3	13.0%	20	87.0%	\$103,070	7
172051	Civil Engineers		3,317	127	41	32.3%	86	67.7%	\$76,160	166
172061	Computer Hardware Engineers		587	19	9	47.4%	10	52.6%	\$83,910	21
172071	Electrical Engineers		3,577	87	11	12.6%	76	87.4%	\$78,160	195
172072	Electronics Engineers, Except Computer		2,746	60	0	0.0%	60	100.0%	\$81,530	77
172081	Environmental Engineers		721	29	12	41.4%	17	58.6%	\$77,800	35
172111	Health and Safety Engineers, Except Mining Safety		434	16	4	25.0%	12	75.0%	\$76,070	104
172112	Industrial Engineers		9,067	335	97	29.0%	238	71.0%	\$74,230	1,056
172131	Materials Engineers		1,317	52	8	15.4%	44	84.6%	\$71,860	30
172141	Mechanical Engineers		12,042	478	142	29.7%	336	70.3%	\$77,160	260
172151	Mining and Geological Engineers, Including Mining		139	5	2	40.0%	3	60.0%	\$76,700	N/A
172171	Petroleum Engineers		102	3	0	0.0%	3	100.0%	\$133,020	3
172199	Engineers, All Other		2,373	72	30	41.7%	42	58.3%	\$78,400	57
173000	Drafters, Engineering, and Mapping Technicians		14,504	337	59	17.5%	278	82.5%	N/A	434
173011	Architectural and Civil Drafters		1,432	20	3	15.0%	17	85.0%	\$49,300	24
173012	Electrical and Electronics Drafters		365	7	3	42.9%	4	57.1%	\$58,720	2
173013	Mechanical Drafters		1,983	24	0	0.0%	24	100.0%	\$50,630	29
173019	Drafters, All Other		352	4	0	0.0%	4	100.0%	\$51,600	N/A
173022	Civil Engineering Technicians		757	24	7	29.2%	17	70.8%	\$51,500	21
173023	Electrical and Electronic Engineering Technicians		2,569	66	4	6.1%	62	93.9%	\$59,370	128
173025	Environmental Engineering Technicians		225	8	3	37.5%	5	62.5%	\$49,170	6
173026	Industrial Engineering Technicians		2,379	72	19	26.4%	53	73.6%	\$48,930	142
173027	Mechanical Engineering Technicians		1,718	50	11	22.0%	39	78.0%	\$51,990	31
173029	Engineering Technicians, Exc. Drafters, All Other		1,580	43	6	14.0%	37	86.0%	\$61,480	13
173031	Surveying and Mapping Technicians		879	11	0	0.0%	11	100.0%	\$41,120	11
190000	Life, Physical, and Social Science Occupations		24,115	872	268	30.7%	604	69.3%	\$58,400	682
191000	Life Scientists		5,891	223	65	29.1%	158	70.9%	N/A	294
191012	Food Scientists and Technologists		378	16	4	25.0%	12	75.0%	\$67,110	7
191013	Soil and Plant Scientists		284	12	3	25.0%	9	75.0%	\$59,210	2
191021	Biochemists and Biophysicists		881	29	8	27.6%	21	72.4%	\$99,580	6
191023	Zoologists and Wildlife Biologists		102	3	1	33.3%	2	66.7%	\$59,800	3
191029	Biological Scientists, All Other		519	17	5	29.4%	12	70.6%	\$63,650	1
191031	Conservation Scientists		263	13	3	23.1%	10	76.9%	\$61,690	10
191032	Foresters		92	4	0	0.0%	4	100.0%	\$53,960	1
191041	Epidemiologists		69	3	1	33.3%	2	66.7%	\$78,140	1
191042	Medical Scientists, Except Epidemiologists		1,619	64	20	31.3%	44	68.8%	\$96,570	258
191099	Life Scientists, All Other		216	9	4	44.4%	5	55.6%	\$58,880	1

192000	Physical Scientists		5,044	138	39	28.3%	99	71.7%	N/A	114
192012	Physicists		199	6	3	50.0%	3	50.0%	\$101,030	4
192021	Atmospheric and Space Scientists		105	3	1	33.3%	2	66.7%	\$86,560	2
192031	Chemists		2,310	58	10	17.2%	48	82.8%	\$65,590	49
192041	Environmental Scientists and Specialists, Including Health		1,019	42	15	35.7%	27	64.3%	\$60,280	46
192042	Geoscientists, Except Hydrologists & Geographers		251	10	3	30.0%	7	70.0%	\$57,860	N/A
192099	Physical Scientists, All Other		1,068	16	6	37.5%	10	62.5%	\$70,380	N/A
193000	Social Scientists and Related Workers		4,045	131	66	50.4%	65	49.6%	N/A	71
193022	Survey Researchers		313	9	6	66.7%	3	33.3%	\$40,800	3
193031	Clinical, Counseling, and School Psychologists		2,401	89	48	53.9%	41	46.1%	\$65,520	56
193039	Psychologists, All Other		208	7	3	42.9%	4	57.1%	\$81,960	1
193051	Urban and Regional Planners		593	14	4	28.6%	10	71.4%	\$51,200	5
193091	Anthropologists and Archeologists		86	2	1	50.0%	1	50.0%	\$47,950	1
193093	Historians		45	0	0	0.0%	0	0.0%	\$39,360	N/A
193099	Social Scientists and Related Workers, All Other		204	3	1	33.3%	2	66.7%	\$73,470	N/A
194000	Life, Physical, and Social Science Technicians		9,135	380	98	25.8%	282	74.2%	N/A	203
194011	Agricultural and Food Science Technicians		957	37	9	24.3%	28	75.7%	\$38,560	9
194021	Biological Technicians		2,714	99	32	32.3%	67	67.7%	\$44,870	39
194031	Chemical Technicians		1,553	56	13	23.2%	43	76.8%	\$41,190	45
194061	Social Science Research Assistants		1,342	62	10	16.1%	52	83.9%	\$41,480	6
194091	Environmental Science and Protection Technicians, Incl. Health		738	37	10	27.0%	27	73.0%	\$46,040	65
194092	Forensic Science Technicians		306	16	6	37.5%	10	62.5%	\$57,960	N/A
194093	Forest and Conservation Technicians		83	4	1	25.0%	3	75.0%	\$38,640	18
194099	Life, Physical & Social Science Technicians, Other		1,386	68	18	26.5%	50	73.5%	\$43,660	13
210000	Community and Social Services Occupations		38,905	1,261	534	42.3%	727	57.7%	\$41,360	1,085
211000	Counselors, Social Workers, and Other Comm. and Soc. Service Specialists		37,353	1,213	516	42.5%	697	57.5%	N/A	1,069
211011	Substance Abuse & Behavioral Disorder Counselors		1,454	52	28	53.8%	24	46.2%	\$37,840	24
211012	Educational, Vocational, and School Counselors		4,093	112	34	30.4%	78	69.6%	\$51,680	126
211013	Marriage and Family Therapists		942	35	19	54.3%	16	45.7%	\$55,700	12
211014	Mental Health Counselors		2,325	85	46	54.1%	39	45.9%	\$42,560	50
211015	Rehabilitation Counselors		1,284	41	18	43.9%	23	56.1%	\$34,050	10
211019	Counselors, All Other		226	7	3	42.9%	4	57.1%	\$50,810	N/A
211021	Child, Family, and School Social Workers		5,876	180	51	28.3%	129	71.7%	\$39,020	72
211022	Healthcare Social Workers		4,793	182	87	47.8%	95	52.2%	\$47,010	96
211023	Mental Health and Substance Abuse Social Workers		2,643	104	53	51.0%	51	49.0%	\$40,630	212
211029	Social Workers, All Other		679	22	7	31.8%	15	68.2%	\$59,570	N/A
211091	Health Educators		1,712	50	21	42.0%	29	58.0%	\$56,100	7
211092	Probation Officers & Correctional Treatment Spec.		2,488	58	12	20.7%	46	79.3%	\$37,950	4
211093	Social and Human Service Assistants		5,952	190	91	47.9%	99	52.1%	\$29,000	440
211094	Community Health Workers		1,466	49	25	51.0%	24	49.0%	\$40,200	N/A
211099	Community and Social Service Specialists, Other		1,420	41	17	41.5%	24	58.5%	\$38,270	13
212000	Religious Workers		1,552	49	18	36.7%	31	63.3%	N/A	15
212011	Clergy		1,082	34	14	41.2%	20	58.8%	\$42,660	10
212021	Directors, Religious Activities and Education		325	11	3	27.3%	8	72.7%	\$54,330	4
212099	Religious Workers, All Other		145	3	1	33.3%	2	66.7%	\$30,950	N/A
230000	Legal Occupations		19,342	482	171	35.5%	311	64.5%	\$80,300	117

231000	Lawyers, Judges, and Related Workers		11,541	261	107	41.0%	154	59.0%	N/A	63
231011	Lawyers		10,516	245	107	43.7%	138	56.3%	\$110,240	58
231012	Judicial Law Clerks		71	2	0	0.0%	2	100.0%	\$33,600	2
231021	Administrative Law Judges, Adjudicators, and Hearing Officers		112	2	0	0.0%	2	100.0%	\$113,900	2
231022	Arbitrators, Mediators, and Conciliators		84	1	0	0.0%	1	100.0%	\$51,320	N/A
231023	Judges, Magistrate Judges, and Magistrates		758	11	0	0.0%	11	100.0%	\$111,850	N/A
232000	Legal Support Workers		7,801	222	64	28.8%	158	71.2%	N/A	54
232011	Paralegals and Legal Assistants		4,526	143	56	39.2%	87	60.8%	\$45,360	47
232091	Court Reporters		855	20	2	10.0%	18	90.0%	\$36,840	1
232093	Title Examiners, Abstractors, and Searchers		1,341	30	0	0.0%	30	100.0%	\$38,130	6
232099	Legal Support Workers, All Other		1,079	28	6	21.4%	22	78.6%	\$44,360	N/A
250000	Education, Training, and Library Occupations		169,050	4,683	1,341	28.6%	3,342	71.4%	\$47,100	1,684
251000	Postsecondary Teachers		36,941	980	396	40.4%	584	59.6%	N/A	292
251011	Business Teachers, Postsecondary		2,078	52	18	34.6%	34	65.4%	\$94,460	38
251021	Computer Science Teachers, Postsecondary		944	23	8	34.8%	15	65.2%	\$88,540	15
251022	Mathematical Science Teachers, Postsecondary		1,259	37	18	48.6%	19	51.4%	\$71,970	10
251032	Engineering Teachers, Postsecondary		1,579	43	19	44.2%	24	55.8%	\$106,800	20
251042	Biological Science Teachers, Postsecondary		1,166	34	16	47.1%	18	52.9%	\$91,090	19
251051	Atmospheric, Earth, Marine, and Space Sciences Tch., Postsec.		170	4	1	25.0%	3	75.0%	\$120,700	4
251052	Chemistry Teachers, Postsecondary		499	15	7	46.7%	8	53.3%	\$87,770	5
251053	Environmental Science Teachers, Postsecondary		293	7	2	28.6%	5	71.4%	\$86,870	5
251054	Physics Teachers, Postsecondary		403	12	6	50.0%	6	50.0%	\$92,030	2
251061	Anthropology & Archeology Teachers, Postsecondary		104	3	1	33.3%	2	66.7%	\$74,400	0
251062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary		113	4	2	50.0%	2	50.0%	\$69,270	4
251063	Economics Teachers, Postsecondary		325	8	3	37.5%	5	62.5%	\$115,170	10
251064	Geography Teachers, Postsecondary		97	3	1	33.3%	2	66.7%	\$73,040	N/A
251065	Political Science Teachers, Postsecondary		362	9	3	33.3%	6	66.7%	\$87,770	1
251066	Psychology Teachers, Postsecondary		781	23	11	47.8%	12	52.2%	\$80,510	17
251067	Sociology Teachers, Postsecondary		394	12	6	50.0%	6	50.0%	\$72,600	1
251071	Health Specialties Teachers, Postsecondary		3,124	98	52	53.1%	46	46.9%	\$120,620	85
251072	Nursing Instructors and Teachers, Postsecondary		1,705	54	29	53.7%	25	46.3%	\$66,220	37
251081	Education Teachers, Postsecondary		1,583	40	14	35.0%	26	65.0%	\$63,510	3
251082	Library Science Teachers, Postsecondary		73	2	1	50.0%	1	50.0%	\$72,700	N/A
251111	Criminal Justice & Law Enforcement Teachers, Postsecondary		340	11	6	54.5%	5	45.5%	\$49,610	6
251112	Law Teachers, Postsecondary		473	16	9	56.3%	7	43.8%	N/A	N/A
251113	Social Work Teachers, Postsecondary		592	17	8	47.1%	9	52.9%	\$66,520	6
251121	Art, Drama, and Music Teachers, Postsecondary		1,782	46	18	39.1%	28	60.9%	\$69,970	33
251122	Communications Teachers, Postsecondary		714	18	7	38.9%	11	61.1%	\$63,340	19
251123	English Language & Literature Teachers, Postsec.		1,398	36	14	38.9%	22	61.1%	\$62,660	29
251124	Foreign Language and Literature Teachers Postsecondary		802	21	8	38.1%	13	61.9%	\$64,420	9
251125	History Teachers, Postsecondary		456	11	4	36.4%	7	63.6%	\$72,360	6
251126	Philosophy and Religion Teachers, Postsecondary		867	24	10	41.7%	14	58.3%	\$72,150	6
251191	Graduate Teaching Assistants		4,711	108	30	27.8%	78	72.2%	\$37,700	10
251192	Home Economics Teachers, Postsecondary		105	2	0	0.0%	2	100.0%	\$68,620	5
251193	Recreation & Fitness Studies Teachers Postsecond.		404	10	4	40.0%	6	60.0%	\$58,130	5
251194	Vocational Education Teachers, Postsecondary		2,443	57	17	29.8%	40	70.2%	\$52,450	131

251199	Postsecondary Teachers, All Other		4,137	104	38	36.5%	66	63.5%	\$67,400	1
252000	Primary, Secondary & Special Education Teachers		70,316	1,974	460	23.3%	1,514	76.7%	N/A	1,082
252011	Preschool Teachers, Except Special Education		5,231	200	67	33.5%	133	66.5%	\$27,910	172
252012	Kindergarten Teachers, Except Special Education		2,944	99	18	18.2%	81	81.8%	\$46,710	17
252021	Elementary School Teachers, Exc. Special Educ.		25,564	686	155	22.6%	531	77.4%	\$49,870	263
252022	Middle School Teachers, Except Special and Career/Technical Education		9,934	267	61	22.8%	206	77.2%	\$51,010	189
252023	Career/Technical Education Teachers, Middle School		266	8	2	25.0%	6	75.0%	\$50,900	5
252031	Secondary School Teachers, Except Special and Career/Technical Education		17,966	510	110	21.6%	400	78.4%	\$51,200	272
252032	Career/Technical Education Teachers, Secondary School		1,413	35	2	5.7%	33	94.3%	\$53,000	19
252051	Special Education Teachers, Preschool		221	7	3	42.9%	4	57.1%	\$49,500	2
252052	Special Education Teachers, Kindergarten and Elementary School		2,917	70	18	25.7%	52	74.3%	\$50,140	76
252053	Special Education Teachers, Middle School		1,314	31	8	25.8%	23	74.2%	\$52,190	21
252054	Special Education Teachers, Secondary School		2,321	55	14	25.5%	41	74.5%	\$53,160	43
252059	Special Education Teachers, All Other		225	6	2	33.3%	4	66.7%	\$50,560	N/A
253000	Other Teachers and Instructors		27,368	701	229	32.7%	472	67.3%	N/A	73
253011	Adult Basic and Secondary Education and Literacy Teachers and Instructors		568	15	5	33.3%	10	66.7%	\$44,470	8
253021	Self-Enrichment Education Teachers		3,946	125	62	49.6%	63	50.4%	\$38,190	12
253098	Substitute Teachers		19,876	487	139	28.5%	348	71.5%	\$26,020	N/A
254000	Librarians, Curators, and Archivists		5,777	218	42	19.3%	176	80.7%	N/A	17
254011	Archivists		148	6	2	33.3%	4	66.7%	\$42,920	N/A
254012	Curators		199	7	1	14.3%	6	85.7%	\$46,590	N/A
254013	Museum Technicians and Conservators		73	2	0	0.0%	2	100.0%	\$36,230	0
254021	Librarians		2,680	63	16	25.4%	47	74.6%	\$49,180	13
254031	Library Technicians		2,677	139	22	15.8%	117	84.2%	\$26,270	3
259000	Other Education, Training, and Library Occupations		28,648	810	214	26.4%	596	73.6%	N/A	218
259011	Audio-Visual and Multimedia Collections Specialists		234	4	2	50.0%	2	50.0%	\$42,820	N/A
259021	Farm and Home Management Advisors		433	8	4	50.0%	4	50.0%	\$49,500	5
259031	Instructional Coordinators		1,788	34	18	52.9%	16	47.1%	\$56,270	34
259041	Teacher Assistants		25,550	752	183	24.3%	569	75.7%	\$22,750	179
259099	Education, Training, & Library Workers, All Other		643	12	6	50.0%	6	50.0%	\$32,670	N/A
270000	Arts, Design, Entertainment, Sports, and Media Occupations		41,926	1,286	300	23.3%	986	76.7%	\$42,110	1,342
271000	Art and Design Workers		13,011	368	88	23.9%	280	76.1%	N/A	466
271011	Art Directors		1,088	25	6	24.0%	19	76.0%	\$69,960	2
271012	Craft Artists		223	6	2	33.3%	4	66.7%	\$35,090	1
271013	Fine Artists, Including Painters, Sculptors, and Illustrators		153	3	0	0.0%	3	100.0%	\$36,990	N/A
271014	Multimedia Artists and Animators		280	7	2	28.6%	5	71.4%	\$49,890	2
271021	Commercial and Industrial Designers		1,339	43	14	32.6%	29	67.4%	\$58,880	9
271022	Fashion Designers		69	2	0	0.0%	2	100.0%	\$72,340	3
271023	Floral Designers		1,660	41	2	4.9%	39	95.1%	\$24,660	3
271024	Graphic Designers		4,368	121	23	19.0%	98	81.0%	\$41,320	101
271025	Interior Designers		1,003	33	12	36.4%	21	63.6%	\$54,410	27
271026	Merchandise Displayers and Window Trimmers		2,602	83	27	32.5%	56	67.5%	\$29,080	309
271027	Set and Exhibit Designers		120	3	0	0.0%	3	100.0%	\$47,850	2
271029	Designers, All Other		79	3	1	33.3%	2	66.7%	\$58,370	N/A
272000	Entertainers & Performers, Sports & Related Workers		11,282	426	81	19.0%	345	81.0%	N/A	472
272011	Actors		356	15	2	13.3%	13	86.7%	N/A	38
272012	Producers and Directors		1,127	47	16	34.0%	31	66.0%	\$61,670	20

272021	Athletes and Sports Competitors		340	14	4	28.6%	10	71.4%	N/A	2
272022	Coaches and Scouts		6,799	258	44	17.1%	214	82.9%	\$33,460	379
272023	Umpires, Referees, and Other Sports Officials		378	13	1	7.7%	12	92.3%	\$24,370	2
272031	Dancers		255	10	2	20.0%	8	80.0%	N/A	N/A
272041	Music Directors and Composers		718	22	2	9.1%	20	90.9%	\$53,650	9
272042	Musicians and Singers		1,020	36	9	25.0%	27	75.0%	N/A	17
273000	Media and Communication Workers		11,722	330	87	26.4%	243	73.6%	N/A	347
273011	Radio and Television Announcers		886	29	0	0.0%	29	100.0%	\$32,410	5
273012	Public Address System and Other Announcers		146	4	0	0.0%	4	100.0%	\$33,450	2
273021	Broadcast News Analysts		161	6	0	0.0%	6	100.0%	\$95,460	1
273022	Reporters and Correspondents		794	32	0	0.0%	32	100.0%	\$40,130	28
273031	Public Relations Specialists		4,158	84	39	46.4%	45	53.6%	\$52,990	150
273041	Editors		1,428	63	0	0.0%	63	100.0%	\$49,540	27
273042	Technical Writers		752	23	8	34.8%	15	65.2%	\$59,040	72
273043	Writers and Authors		1,776	35	6	17.1%	29	82.9%	\$47,520	22
273091	Interpreters and Translators		1,260	45	30	66.7%	15	33.3%	\$43,520	39
273099	Media and Communication Workers, All Other		361	8	3	37.5%	5	62.5%	\$35,980	N/A
274000	Media and Communication Equipment Workers		5,911	161	43	26.7%	118	73.3%	N/A	56
274011	Audio and Video Equipment Technicians		1,026	31	14	45.2%	17	54.8%	\$34,600	11
274012	Broadcast Technicians		548	11	0	0.0%	11	100.0%	\$32,880	18
274013	Radio Operators		47	1	0	0.0%	1	100.0%	\$41,980	N/A
274014	Sound Engineering Technicians		81	2	1	50.0%	1	50.0%	\$52,400	2
274021	Photographers		3,532	100	18	18.0%	82	82.0%	\$30,800	18
274031	Camera Operators, Television, Video & Motion Pict.		396	9	6	66.7%	3	33.3%	\$38,920	4
274032	Film and Video Editors		223	6	4	66.7%	2	33.3%	\$45,450	1
274099	Media & Communication Equipment Workers, All Other		58	1	0	0.0%	1	100.0%	\$52,350	N/A
290000	Healthcare Practitioners and Technical Occupations		216,699	7,351	3,295	44.8%	4,056	55.2%	\$71,750	4,666
291000	Health Diagnosing and Treating Practitioners		131,771	4,712	2,097	44.5%	2,615	55.5%	N/A	1,940
291011	Chiropractors		1,070	30	13	43.3%	17	56.7%	\$103,980	3
291021	Dentists, General		2,964	91	38	41.8%	53	58.2%	\$146,760	41
291023	Orthodontists		261	8	3	37.5%	5	62.5%	\$197,790	2
291031	Dietitians and Nutritionists		1,427	35	26	74.3%	9	25.7%	\$54,140	82
291041	Optometrists		1,218	59	25	42.4%	34	57.6%	\$92,940	41
291051	Pharmacists		6,749	187	38	20.3%	149	79.7%	\$115,230	274
291061	Anesthesiologists		704	27	11	40.7%	16	59.3%	\$261,750	54
291062	Family and General Practitioners		2,645	86	20	23.3%	66	76.7%	\$177,540	302
291063	Internists, General		953	31	7	22.6%	24	77.4%	\$252,310	173
291064	Obstetricians and Gynecologists		472	17	6	35.3%	11	64.7%	N/A	56
291065	Pediatricians, General		631	20	4	20.0%	16	80.0%	\$222,320	48
291066	Psychiatrists		360	13	5	38.5%	8	61.5%	\$238,780	107
291067	Surgeons		1,034	40	16	40.0%	24	60.0%	N/A	132
291069	Physicians and Surgeons, All Other		11,042	424	173	40.8%	251	59.2%	\$227,780	378
291071	Physician Assistants		1,245	50	29	58.0%	21	42.0%	\$99,130	234
291081	Podiatrists		205	6	2	33.3%	4	66.7%	\$117,940	3
291122	Occupational Therapists		3,206	118	70	59.3%	48	40.7%	\$77,120	373
291123	Physical Therapists		5,769	256	138	53.9%	118	46.1%	\$81,460	687

352013	Cooks, Private Household		107	4	1	25.0%	3	75.0%	N/A	N/A
352014	Cooks, Restaurant		27,127	1,026	420	40.9%	606	59.1%	\$21,260	254
352015	Cooks, Short Order		2,610	70	0	0.0%	70	100.0%	\$20,640	27
352019	Cooks, All Other		239	8	2	25.0%	6	75.0%	\$24,180	0
352021	Food Preparation Workers		21,313	728	186	25.5%	542	74.5%	\$20,030	107
353000	Food and Beverage Serving Workers		174,468	7,868	1,790	22.8%	6,078	77.2%	N/A	1,313
353011	Bartenders		14,115	638	172	27.0%	466	73.0%	\$21,490	51
353021	Combined Food Preparation and Serving Workers, Incl. Fast Food		95,233	3,891	1,202	30.9%	2,689	69.1%	\$18,070	880
353022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop		7,416	469	57	12.2%	412	87.8%	\$18,260	40
353031	Waiters and Waitresses		53,157	2,712	297	11.0%	2,415	89.0%	\$20,450	305
353041	Food Servers, Nonrestaurant		4,547	158	61	38.6%	97	61.4%	\$20,080	37
359000	Other Food Preparation and Serving Related Workers		26,844	1,523	139	9.1%	1,384	90.9%	N/A	281
359011	Dining Room and Cafeteria Attendants and Bartender		7,777	421	65	15.4%	356	84.6%	\$19,280	115
359021	Dishwashers		9,464	414	0	0.0%	414	100.0%	\$18,480	96
359031	Host & Hostess, Restaurant, Lounge & Coffee Shop		8,807	644	66	10.2%	578	89.8%	\$18,200	69
359099	Food Preparation & Serving Related Workers, Other		796	45	9	20.0%	36	80.0%	\$19,900	0
370000	Building & Grounds Cleaning & Maintenance Occup.		108,928	2,961	987	33.3%	1,974	66.7%	\$25,180	1,741
371000	Supervisors, Building and Grounds Cleaning and Maintenance Workers		9,135	211	76	36.0%	135	64.0%	N/A	161
371011	First-Line Supervisors of Housekeeping and Janitorial Workers		5,300	119	42	35.3%	77	64.7%	\$34,150	105
371012	First-Line Supervisors/Mngrs of Landscap., Lawn Serv., & Groundskeep. Wrks.		3,835	91	33	36.3%	58	63.7%	\$42,790	56
372000	Building Cleaning and Pest Control Workers		71,706	2,027	647	31.9%	1,380	68.1%	N/A	1,088
372011	Janitors and Cleaners, Except Maids and Housekeeping		48,272	1,304	431	33.1%	873	66.9%	\$24,880	594
372012	Maids and Housekeeping Cleaners		21,867	679	207	30.5%	472	69.5%	\$20,180	439
373000	Grounds Maintenance Workers		28,087	723	264	36.5%	459	63.5%	N/A	491
373011	Landscaping and Groundskeeping Workers		24,870	638	232	36.4%	406	63.6%	\$25,170	437
373013	Tree Trimmers and Pruners		931	24	9	37.5%	15	62.5%	\$33,920	47
390000	Personal Care and Service Occupations		102,886	3,329	1,375	41.3%	1,954	58.7%	\$22,510	770
391000	Supervisors, Personal Care and Service Workers		6,388	200	74	37.0%	126	63.0%	N/A	55
391011	Gaming Supervisors		1,352	53	13	24.5%	40	75.5%	\$51,600	16
391012	Slot Supervisors		128	4	0	0.0%	4	100.0%	\$41,450	N/A
391021	First-Line Supervisors of Personal Service Workers		4,908	142	61	43.0%	81	57.0%	\$34,080	39
392000	Animal Care and Service Workers		5,542	178	72	40.4%	106	59.6%	N/A	47
392011	Animal Trainers		481	22	8	36.4%	14	63.6%	\$29,380	8
392021	Nonfarm Animal Caretakers		5,061	155	64	41.3%	91	58.7%	\$20,840	39
393000	Entertainment Attendants and Related Workers		11,623	539	96	17.8%	443	82.2%	N/A	39
393011	Gaming Dealers		3,109	98	20	20.4%	78	79.6%	\$21,030	10
393019	Gaming Service Workers, All Other		53	2	0	0.0%	2	100.0%	\$26,810	N/A
393021	Motion Picture Projectionists		103	5	0	0.0%	5	100.0%	\$20,630	0
393031	Ushers, Lobby Attendants, and Ticket Takers		2,029	133	13	9.8%	120	90.2%	\$18,750	4
393091	Amusement and Recreation Attendants		5,709	269	51	19.0%	218	81.0%	\$18,800	19
393092	Costume Attendants		54	3	1	33.3%	2	66.7%	\$26,740	N/A
393093	Locker Room, Coatroom, & Dressing Room Attendants		161	8	2	25.0%	6	75.0%	\$19,260	3
394000	Funeral Service Workers		2,480	61	8	13.1%	53	86.9%	N/A	4
394011	Embalmers		90	2	0	0.0%	2	100.0%	\$35,900	N/A
394021	Funeral Attendants		1,367	30	0	0.0%	30	100.0%	\$23,720	3
394031	Morticians, Undertakers, and Funeral Directors		1,023	29	8	27.6%	21	72.4%	\$45,670	1

431000	Supervisors, Office & Admin. Support Workers		27,006	627	258	41.1%	369	58.9%	N/A	943
431011	First-Line Supervisors/Managers of Office and Admin. Support Worker		27,006	627	258	41.1%	369	58.9%	\$51,200	943
432000	Communications Equipment Operators		1,530	29	0	0.0%	29	100.0%	N/A	24
432011	Switchboard Operators, Including Answering Service		1,405	24	0	0.0%	24	100.0%	\$26,080	23
433000	Financial Clerks		68,208	1,464	164	11.2%	1,300	88.8%	N/A	1,044
433011	Bill and Account Collectors		4,524	113	0	0.0%	113	100.0%	\$33,280	133
433021	Billing and Posting Clerks and Machine Operators		11,983	375	158	42.1%	217	57.9%	\$34,110	95
433031	Bookkeeping, Accounting, and Auditing Clerks		35,258	365	0	0.0%	365	100.0%	\$35,740	431
433041	Gaming Cage Workers		257	6	2	33.3%	4	66.7%	\$24,750	8
433051	Payroll and Timekeeping Clerks		4,109	113	0	0.0%	113	100.0%	\$39,030	58
433061	Procurement Clerks		1,369	50	0	0.0%	50	100.0%	\$39,000	3
433071	Tellers		10,367	428	0	0.0%	428	100.0%	\$25,060	315
433099	Financial Clerks, All Other		341	11	3	27.3%	8	72.7%	\$42,280	N/A
434000	Information and Record Clerks		102,187	3,216	865	26.9%	2,351	73.1%	N/A	1,584
434011	Brokerage Clerks		760	19	0	0.0%	19	100.0%	\$45,210	N/A
434021	Correspondence Clerks		95	3	0	0.0%	3	100.0%	\$33,080	N/A
434031	Court, Municipal, and License Clerks		1,784	19	9	47.4%	10	52.6%	\$31,180	6
434041	Credit Authorizers, Checkers, and Clerks		516	4	0	0.0%	4	100.0%	\$35,760	N/A
434051	Customer Service Representatives		47,971	1,551	491	31.7%	1,060	68.3%	\$34,650	1,356
434061	Eligibility Interviewers, Government Programs		2,245	37	14	37.8%	23	62.2%	\$35,960	10
434071	File Clerks		2,086	44	0	0.0%	44	100.0%	\$28,150	7
434081	Hotel, Motel, and Resort Desk Clerks		4,982	276	38	13.8%	238	86.2%	\$19,360	204
434111	Interviewers, Except Eligibility and Loan		4,993	152	50	32.9%	102	67.1%	\$30,110	90
434121	Library Assistants, Clerical		3,741	145	42	29.0%	103	71.0%	\$24,200	9
434131	Loan Interviewers and Clerks		3,716	89	37	41.6%	52	58.4%	\$33,770	37
434141	New Accounts Clerks		773	20	0	0.0%	20	100.0%	\$33,300	6
434151	Order Clerks		3,945	111	5	4.5%	106	95.5%	\$33,640	30
434161	Human Resources Assistants, Ex Payroll and Timekeeping		2,469	28	0	0.0%	28	100.0%	\$37,100	103
434171	Receptionists and Information Clerks		18,463	617	163	26.4%	454	73.6%	\$26,780	209
434181	Reservation and Transportation Ticket Agents and Travel Clerks		539	10	0	0.0%	10	100.0%	\$37,890	10
434199	Information and Record Clerks, All Other		3,109	93	17	18.3%	76	81.7%	\$34,010	N/A
435000	Material Recording, Scheduling, Dispatching, and Dist. Wkrs.		91,421	2,961	649	21.9%	2,312	78.1%	N/A	1,221
435011	Cargo and Freight Agents		1,598	64	18	28.1%	46	71.9%	\$37,480	11
435021	Couriers and Messengers		1,565	36	18	50.0%	18	50.0%	\$27,150	11
435031	Police, Fire, and Ambulance Dispatchers		2,147	55	0	0.0%	55	100.0%	\$33,470	10
435032	Dispatchers, Except Police, Fire, and Ambulance		5,072	156	39	25.0%	117	75.0%	\$39,240	54
435041	Meter Readers, Utilities		503	11	0	0.0%	11	100.0%	\$38,000	1
435051	Postal Service Clerks		1,235	18	0	0.0%	18	100.0%	\$48,760	5
435052	Postal Service Mail Carriers		5,782	132	0	0.0%	132	100.0%	\$50,250	7
435053	Postal Service Mail Sorters, Processors, and Processing Machine Op.		1,553	24	0	0.0%	24	100.0%	\$48,530	7
435061	Production, Planning, and Expediting Clerks		6,592	207	39	18.8%	168	81.2%	\$45,930	144
435071	Shipping, Receiving, and Traffic Clerks		19,154	523	137	26.2%	386	73.8%	\$31,410	146
435081	Stock Clerks and Order Fillers		44,393	1,673	387	23.1%	1,286	76.9%	\$24,820	823
435111	Weighers, Measurers, Checkers, and Samplers, Recordkeep.		1,827	62	11	17.7%	51	82.3%	\$32,300	4
436000	Secretaries and Administrative Assistants		66,894	1,095	431	39.4%	664	60.6%	N/A	1,256
436011	Executive Secretaries and Executive Administrative Assistants		10,424	114	0	0.0%	114	100.0%	\$46,510	533
436012	Legal Secretaries		3,511	42	6	14.3%	36	85.7%	\$38,040	57

436013	Medical Secretaries		14,181	353	228	64.6%	125	35.4%	\$32,500	362
436014	Secretaries, Except Legal, Medical, and Executive		38,778	585	197	33.7%	388	66.3%	\$32,210	303
439000	Other Office and Administrative Support Workers		71,957	1,845	362	19.6%	1,483	80.4%	N/A	487
439011	Computer Operators		838	7	0	0.0%	7	100.0%	\$43,510	10
439021	Data Entry Keyers		3,760	51	3	5.9%	48	94.1%	\$26,790	78
439022	Word Processors and Typists		459	2	0	0.0%	2	100.0%	\$30,380	3
439031	Desktop Publishers		117	4	0	0.0%	4	100.0%	\$34,070	5
439041	Insurance Claims and Policy Processing Clerks		3,834	111	20	18.0%	91	82.0%	\$36,580	19
439051	Mail Clerks and Mail Machine Operators, Except Postal		1,380	34	0	0.0%	34	100.0%	\$26,410	10
439061	Office Clerks, General		55,876	1,451	313	21.6%	1,138	78.4%	\$28,930	349
439071	Office Machine Operators, Except Computer		963	25	0	0.0%	25	100.0%	\$31,420	10
439081	Proofreaders and Copy Markers		198	5	0	0.0%	5	100.0%	\$32,880	1
439111	Statistical Assistants		853	38	0	0.0%	38	100.0%	\$36,070	4
439199	Office and Administrative Support Workers, Other		3,679	119	27	22.7%	92	77.3%	\$32,190	17
450000	Farming, Fishing, and Forestry Occupations		58,550	2,002	613	30.6%	1,389	69.4%	\$28,990	87
451000	Supervisors, Farming, Fishing, & Forestry Workers		609	15	0	0.0%	15	100.0%	N/A	10
451011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers		609	15	0	0.0%	15	100.0%	\$43,640	10
452000	Agricultural Workers		57,480	1,974	611	31.0%	1,363	69.0%	N/A	71
452011	Agricultural Inspectors		178	5	1	20.0%	4	80.0%	\$40,680	11
452041	Graders and Sorters, Agricultural Products		424	7	0	0.0%	7	100.0%	\$20,650	3
452091	Agricultural Equipment Operators		1,226	44	15	34.1%	29	65.9%	\$36,210	9
452092	Farmworkers & Laborers, Crop, Nursery & Greenhouse		31,894	1,090	328	30.1%	762	69.9%	\$24,660	28
452093	Farmworkers, Farm, Ranch, and Aquacultural Animals		23,513	820	264	32.2%	556	67.8%	\$26,820	18
454011	Forest and Conservation Workers		54	1	0	0.0%	1	100.0%	\$30,480	0
454021	Fallers		185	5	0	0.0%	5	100.0%	\$38,750	N/A
454022	Logging Equipment Operators		158	5	1	20.0%	4	80.0%	\$30,610	1
454023	Log Graders and Scalers		54	1	0	0.0%	1	100.0%	\$35,980	N/A
470000	Construction and Extraction Occupations		146,959	3,667	1,668	45.5%	1,999	54.5%	\$49,030	1,213
471000	Supervisors, Construction and Extraction Workers		11,324	204	124	60.8%	80	39.2%	N/A	357
471011	First-Line Supervisors of Construction Trades and Extraction Workers		11,324	204	124	60.8%	80	39.2%	\$62,940	357
472000	Construction Trades Workers		120,448	3,039	1,408	46.3%	1,631	53.7%	N/A	710
472011	Boilermakers		2,020	52	25	48.1%	27	51.9%	\$67,040	N/A
472021	Brickmasons and Blockmasons		2,802	67	48	71.6%	19	28.4%	\$50,150	23
472022	Stonemasons		233	5	3	60.0%	2	40.0%	\$51,840	1
472031	Carpenters		21,652	448	225	50.2%	223	49.8%	\$41,630	265
472041	Carpet Installers		625	12	4	33.3%	8	66.7%	\$38,050	14
472042	Floor Layers, Except Carpet, Wood, and Hard Tiles		207	5	3	60.0%	2	40.0%	\$31,770	4
472044	Tile and Marble Setters		923	21	9	42.9%	12	57.1%	\$39,730	4
472051	Cement Masons and Concrete Finishers		5,098	123	69	56.1%	54	43.9%	\$41,790	43
472061	Construction Laborers		21,904	669	290	43.3%	379	56.7%	\$41,250	291
472071	Paving, Surfacing, & Tamping Equipment Operators		1,173	36	10	27.8%	26	72.2%	\$50,660	11
472073	Operating Engineers and Other Construction Equipment		8,756	215	83	38.6%	132	61.4%	\$53,010	21
472081	Drywall and Ceiling Tile Installers		1,631	20	11	55.0%	9	45.0%	\$42,200	26
472082	Tapers		131	2	1	50.0%	1	50.0%	\$54,630	N/A
472111	Electricians		20,011	522	255	48.9%	267	51.1%	\$59,130	213
472121	Glaziers		905	18	6	33.3%	12	66.7%	\$47,060	10

Employment Outlook Projections for EGR 3 [Click Column Name to Sort](#)

Code	Title	Hot 50	Projected Demand (2024)	Avg. Annual Openings	Avg. Annual New Openings	Percent of Total Openings	Avg. Annual Replacements Openings	Percent of Total Openings	Avg. Annual Wage in (2015)	Current Demand: Online Job Ads (2-mo. avg)
0	Total		392,746	12,216	3,699	30.3%	8,517	69.7%	\$39,597	6,435
110000	Management Occupations		18,016	526	148	28.1%	378	71.9%	\$90,772	304
111000	Top Executives		4,675	136	33	24.3%	103	75.7%	\$102,508	60
111021	General and Operations Managers		3,695	117	32	27.4%	85	72.6%	\$99,806	57
112000	Advertising, Marketing, Promotions, Public Relations, and Sales Managers		1,098	33	8	24.2%	25	75.8%	\$103,834	66
112011	Advertising and Promotions Managers		57	2	0	0.0%	2	100.0%	\$59,149	2
112021	Marketing Managers		285	9	3	33.3%	6	66.7%	\$101,912	25
112022	Sales Managers		664	19	4	21.1%	15	78.9%	\$110,486	30
112031	Public Relations and Fundraising Managers		92	4	1	25.0%	3	75.0%	\$81,831	9
113000	Operations Specialties Managers		3,606	106	29	27.4%	77	72.6%	\$92,844	67
113011	Administrative Services Managers		298	8	3	37.5%	5	62.5%	\$80,998	3
113021	Computer and Information Systems Managers		503	12	7	58.3%	5	41.7%	\$105,451	8
113031	Financial Managers		912	26	6	23.1%	20	76.9%	\$104,014	31
113051	Industrial Production Managers		1,038	34	6	17.6%	28	82.4%	\$86,498	9
113061	Purchasing Managers		209	7	2	28.6%	5	71.4%	\$91,269	10
113071	Transportation, Storage & Distribution Managers		402	11	3	27.3%	8	72.7%	\$80,885	4
113111	Compensation and Benefits Managers		25	1	0	0.0%	1	100.0%	\$102,223	N/A
113121	Human Resource Managers		188	7	2	28.6%	5	71.4%	\$88,838	17
113131	Training and Development Managers		31	1	0	0.0%	1	100.0%	\$77,165	0
119000	Other Management Occupations		8,637	251	78	31.1%	173	68.9%	\$74,460	111
119021	Construction Managers		817	17	6	35.3%	11	64.7%	\$82,370	5
119031	Education Administrators, Preschool & Child Care		120	5	2	40.0%	3	60.0%	\$43,703	0
119032	Education Administrators, Elementary & Secondary		620	21	4	19.0%	17	81.0%	\$80,848	3
119033	Education Administrators, Postsecondary		396	14	4	28.6%	10	71.4%	\$86,635	14
119039	Education Administrators, All Other		50	1	0	0.0%	1	100.0%	\$54,498	1
119041	Architectural and Engineering Managers		393	13	1	7.7%	12	92.3%	\$111,565	13
119051	Food Service Managers		818	23	8	34.8%	15	65.2%	\$57,057	64
119061	Funeral Service Managers		144	4	1	25.0%	3	75.0%	\$56,494	N/A
119081	Lodging Managers		119	3	1	33.3%	2	66.7%	\$36,508	3
119111	Medical and Health Services Managers		1,076	40	17	42.5%	23	57.5%	\$89,993	125
119131	Postmasters and Mail Superintendents		44	1	0	0.0%	1	100.0%	\$72,732	N/A
119141	Property, Real Estate & Community Association Mgr		502	13	5	38.5%	8	61.5%	\$49,142	12
119151	Social and Community Service Managers		568	22	9	40.9%	13	59.1%	\$51,793	8
119161	Emergency Management Directors		15	0	0	0.0%	0	0.0%	\$45,646	N/A
119199	Managers, All Other		1,523	42	11	26.2%	31	73.8%	\$67,357	25
130000	Business and Financial Operations Occupations		12,178	366	128	35.0%	238	65.0%	\$59,926	160
131000	Business Operations Specialists		7,333	210	74	35.2%	136	64.8%	\$56,459	54
131022	Wholesale and Retail Buyers, Except Farm Products		197	8	3	37.5%	5	62.5%	\$43,248	0
131023	Purchasing Agents, Exc Wholesale, Retail & Farm		863	27	5	18.5%	22	81.5%	\$52,572	13
131031	Claims Adjusters, Examiners, and Investigators		356	10	2	20.0%	8	80.0%	\$57,744	12
131041	Compliance Officers		239	5	2	40.0%	3	60.0%	\$55,721	1
131051	Cost Estimators		789	29	9	31.0%	20	69.0%	\$59,428	9

172051	Civil Engineers		279	10	3	30.0%	7	70.0%	\$66,517	17
172061	Computer Hardware Engineers		110	2	0	0.0%	2	100.0%	\$93,828	3
172071	Electrical Engineers		311	8	1	12.5%	7	87.5%	\$74,500	18
172072	Electronics Engineers, Except Computer		426	11	0	0.0%	11	100.0%	\$75,906	16
172111	Health and Safety Engineers, Except Mining Safety		23	1	0	0.0%	1	100.0%	\$76,253	15
172112	Industrial Engineers		1,324	47	11	23.4%	36	76.6%	\$71,555	120
172131	Materials Engineers		142	6	1	16.7%	5	83.3%	\$57,930	6
172141	Mechanical Engineers		1,166	43	9	20.9%	34	79.1%	\$71,431	32
172199	Engineers, All Other		124	3	1	33.3%	2	66.7%	\$69,266	10
173000	Drafters, Engineering, and Mapping Technicians		1,520	32	4	12.5%	28	87.5%	\$49,342	59
173011	Architectural and Civil Drafters		270	4	1	25.0%	3	75.0%	\$47,822	N/A
173013	Mechanical Drafters		255	3	0	0.0%	3	100.0%	\$44,922	9
173019	Drafters, All Other		28	0	0	0.0%	0	0.0%	\$54,457	N/A
173022	Civil Engineering Technicians		85	3	1	33.3%	2	66.7%	\$49,208	2
173023	Electrical and Electronic Engineering Technicians		353	9	0	0.0%	9	100.0%	\$55,347	17
173024	Electro-Mechanical Technicians		35	1	0	0.0%	1	100.0%	N/A	3
173026	Industrial Engineering Technicians		247	7	1	14.3%	6	85.7%	\$46,276	21
173027	Mechanical Engineering Technicians		107	3	0	0.0%	3	100.0%	\$50,357	4
173029	Engineering Technicians, Exc. Drafters, All Other		50	1	0	0.0%	1	100.0%	\$65,359	N/A
173031	Surveying and Mapping Technicians		60	1	0	0.0%	1	100.0%	\$34,303	N/A
190000	Life, Physical, and Social Science Occupations		971	36	13	36.1%	23	63.9%	\$57,033	30
191000	Life Scientists		168	7	2	28.6%	5	71.4%	\$67,214	14
191012	Food Scientists and Technologists		48	2	0	0.0%	2	100.0%	\$70,353	N/A
191013	Soil and Plant Scientists		11	0	0	0.0%	0	0.0%	\$45,661	N/A
192000	Physical Scientists		151	5	2	40.0%	3	60.0%	\$69,851	N/A
192031	Chemists		66	1	0	0.0%	1	100.0%	\$76,606	N/A
192041	Environmental Scientists and Specialists, Including Health		56	2	1	50.0%	1	50.0%	\$51,267	N/A
193000	Social Scientists and Related Workers		379	12	6	50.0%	6	50.0%	\$63,367	8
193031	Clinical, Counseling, and School Psychologists		225	9	5	55.6%	4	44.4%	\$65,321	6
193051	Urban and Regional Planners		80	2	1	50.0%	1	50.0%	\$53,729	1
193099	Social Scientists and Related Workers, All Other		27	0	0	0.0%	0	0.0%	\$79,159	N/A
194000	Life, Physical, and Social Science Technicians		273	11	3	27.3%	8	72.7%	\$37,919	7
194031	Chemical Technicians		117	4	1	25.0%	3	75.0%	\$32,413	2
194092	Forensic Science Technicians		21	1	0	0.0%	1	100.0%	\$57,795	N/A
194099	Life, Physical & Social Science Technicians, Other		39	1	0	0.0%	1	100.0%	\$40,674	2
210000	Community and Social Services Occupations		4,698	159	70	44.0%	89	56.0%	\$38,855	105
211000	Counselors, Social Workers, and Other Comm. and Soc. Service Specialists		4,463	150	66	44.0%	84	56.0%	\$38,245	102
211011	Substance Abuse & Behavioral Disorder Counselors		97	4	2	50.0%	2	50.0%	\$41,111	1
211012	Educational, Vocational, and School Counselors		459	13	4	30.8%	9	69.2%	\$46,997	12
211013	Marriage and Family Therapists		92	3	1	33.3%	2	66.7%	\$48,831	1
211014	Mental Health Counselors		289	11	6	54.5%	5	45.5%	\$43,832	5
211015	Rehabilitation Counselors		122	4	2	50.0%	2	50.0%	\$31,940	1
211021	Child, Family, and School Social Workers		899	29	10	34.5%	19	65.5%	\$35,511	4
211022	Healthcare Social Workers		972	37	18	48.6%	19	51.4%	\$37,167	10
211023	Mental Health and Substance Abuse Social Workers		331	13	7	53.8%	6	46.2%	\$39,954	23
211091	Health Educators		136	4	2	50.0%	2	50.0%	\$64,159	1
211092	Probation Officers & Correctional Treatment Spec.		213	5	1	20.0%	4	80.0%	\$42,258	N/A

211093	Social and Human Service Assistants		514	17	9	52.9%	8	47.1%	\$26,970	42
211094	Community Health Workers		106	4	2	50.0%	2	50.0%	\$34,862	N/A
211099	Community and Social Service Specialists, Other		150	4	2	50.0%	2	50.0%	\$34,342	N/A
212000	Religious Workers		235	8	4	50.0%	4	50.0%	\$49,785	3
212011	Clergy		162	6	3	50.0%	3	50.0%	\$44,543	2
212021	Directors, Religious Activities and Education		60	2	1	50.0%	1	50.0%	\$66,137	N/A
212099	Religious Workers, All Other		13	0	0	0.0%	0	0.0%	N/A	N/A
230000	Legal Occupations		1,854	47	17	36.2%	30	63.8%	\$73,724	5
231000	Lawyers, Judges, and Related Workers		1,060	23	9	39.1%	14	60.9%	\$103,273	4
231011	Lawyers		925	21	9	42.9%	12	57.1%	\$104,108	4
231023	Judges, Magistrate Judges, and Magistrates		97	1	0	0.0%	1	100.0%	\$108,587	N/A
232000	Legal Support Workers		794	24	8	33.3%	16	66.7%	\$39,475	1
232011	Paralegals and Legal Assistants		549	18	7	38.9%	11	61.1%	\$39,932	1
232091	Court Reporters		103	2	0	0.0%	2	100.0%	\$37,033	N/A
232093	Title Examiners, Abstractors, and Searchers		96	2	0	0.0%	2	100.0%	\$33,563	N/A
232099	Legal Support Workers, All Other		46	1	0	0.0%	1	100.0%	\$48,986	N/A
250000	Education, Training, and Library Occupations		19,340	546	160	29.3%	386	70.7%	\$45,112	143
251000	Postsecondary Teachers		3,633	99	42	42.4%	57	57.6%	\$75,355	43
251011	Business Teachers, Postsecondary		335	8	3	37.5%	5	62.5%	\$87,987	7
251022	Mathematical Science Teachers, Postsecondary		209	6	3	50.0%	3	50.0%	N/A	2
251042	Biological Science Teachers, Postsecondary		124	4	2	50.0%	2	50.0%	N/A	4
251051	Atmospheric, Earth, Marine, and Space Sciences Tch., Postsec.		32	0	0	0.0%	0	0.0%	N/A	1
251052	Chemistry Teachers, Postsecondary		86	2	1	50.0%	1	50.0%	N/A	N/A
251063	Economics Teachers, Postsecondary		68	2	1	50.0%	1	50.0%	\$110,808	N/A
251065	Political Science Teachers, Postsecondary		80	2	1	50.0%	1	50.0%	\$91,212	N/A
251066	Psychology Teachers, Postsecondary		115	4	2	50.0%	2	50.0%	\$75,479	3
251067	Sociology Teachers, Postsecondary		70	2	1	50.0%	1	50.0%	\$77,329	N/A
251071	Health Specialties Teachers, Postsecondary		204	6	3	50.0%	3	50.0%	\$123,499	2
251081	Education Teachers, Postsecondary		176	5	2	40.0%	3	60.0%	\$59,617	1
251121	Art, Drama, and Music Teachers, Postsecondary		160	4	2	50.0%	2	50.0%	\$99,499	5
251122	Communications Teachers, Postsecondary		86	2	1	50.0%	1	50.0%	N/A	5
251123	English Language & Literature Teachers, Postsec.		220	6	2	33.3%	4	66.7%	\$67,847	6
251125	History Teachers, Postsecondary		66	2	1	50.0%	1	50.0%	\$68,115	N/A
251126	Philosophy and Religion Teachers, Postsecondary		144	4	2	50.0%	2	50.0%	N/A	2
251193	Recreation & Fitness Studies Teachers Postsecond.		54	1	0	0.0%	1	100.0%	N/A	N/A
251194	Vocational Education Teachers, Postsecondary		290	7	2	28.6%	5	71.4%	\$41,650	29
251199	Postsecondary Teachers, All Other		65	2	1	50.0%	1	50.0%	\$52,929	N/A
252000	Primary, Secondary & Special Education Teachers		8,399	239	58	24.3%	181	75.7%	\$48,989	77
252011	Preschool Teachers, Except Special Education		570	22	8	36.4%	14	63.6%	\$39,142	9
252012	Kindergarten Teachers, Except Special Education		425	15	3	20.0%	12	80.0%	\$45,487	N/A
252021	Elementary School Teachers, Exc. Special Educ.		2,681	73	17	23.3%	56	76.7%	\$49,876	16
252022	Middle School Teachers, Except Special and Career/Technical Education		1,205	33	8	24.2%	25	75.8%	\$51,508	14
252023	Career/Technical Education Teachers, Middle School		91	3	1	33.3%	2	66.7%	\$52,012	2
252031	Secondary School Teachers, Except Special and Career/Technical Education		2,265	65	15	23.1%	50	76.9%	\$48,855	25
252032	Career/Technical Education Teachers, Secondary School		296	7	0	0.0%	7	100.0%	\$53,204	1
252052	Special Education Teachers, Kindergarten and Elementary School		320	8	2	25.0%	6	75.0%	\$46,429	5

252053	Special Education Teachers, Middle School		126	3	1	33.3%	2	66.7%	\$51,015	2
252054	Special Education Teachers, Secondary School		346	8	2	25.0%	6	75.0%	\$47,925	1
253000	Other Teachers and Instructors		3,251	85	29	34.1%	56	65.9%	\$27,747	N/A
253021	Self-Enrichment Education Teachers		566	17	8	47.1%	9	52.9%	\$41,708	N/A
253098	Substitute Teachers		2,458	62	19	30.6%	43	69.4%	\$22,511	N/A
254000	Librarians, Curators, and Archivists		654	24	3	12.5%	21	87.5%	\$37,116	5
254021	Librarians		314	7	1	14.3%	6	85.7%	\$44,718	3
254031	Library Technicians		323	16	2	12.5%	14	87.5%	\$26,576	2
259000	Other Education, Training, and Library Occupations		3,403	101	29	28.7%	72	71.3%	\$24,540	17
259021	Farm and Home Management Advisors		25	1	1	100.0%	0	0.0%	\$44,041	N/A
259031	Instructional Coordinators		123	2	1	50.0%	1	50.0%	\$51,346	3
259041	Teacher Assistants		3,224	98	27	27.6%	71	72.4%	\$23,276	14
270000	Arts, Design, Entertainment, Sports, and Media Occupations		4,598	145	36	24.8%	109	75.2%	\$37,267	144
271000	Art and Design Workers		1,619	48	13	27.1%	35	72.9%	\$39,822	51
271011	Art Directors		152	4	1	25.0%	3	75.0%	\$75,557	N/A
271021	Commercial and Industrial Designers		94	3	1	33.3%	2	66.7%	\$57,674	1
271023	Floral Designers		138	3	0	0.0%	3	100.0%	\$23,153	N/A
271024	Graphic Designers		596	16	2	12.5%	14	87.5%	\$38,096	15
271025	Interior Designers		127	4	1	25.0%	3	75.0%	\$49,607	3
271026	Merchandise Displayers and Window Trimmers		444	16	7	43.8%	9	56.3%	\$33,242	30
272000	Entertainers & Performers, Sports & Related Workers		1,252	47	9	19.1%	38	80.9%	\$31,442	54
272012	Producers and Directors		115	4	1	25.0%	3	75.0%	\$49,506	1
272022	Coaches and Scouts		814	32	6	18.8%	26	81.3%	\$25,997	48
272041	Music Directors and Composers		47	1	0	0.0%	1	100.0%	\$62,453	N/A
273000	Media and Communication Workers		1,249	37	10	27.0%	27	73.0%	\$43,483	34
273011	Radio and Television Announcers		195	6	0	0.0%	6	100.0%	\$32,393	N/A
273012	Public Address System and Other Announcers		55	1	0	0.0%	1	100.0%	\$27,826	N/A
273022	Reporters and Correspondents		81	3	0	0.0%	3	100.0%	\$34,569	3
273031	Public Relations Specialists		266	6	3	50.0%	3	50.0%	\$47,842	20
273041	Editors		141	6	0	0.0%	6	100.0%	\$45,340	5
273042	Technical Writers		45	1	0	0.0%	1	100.0%	\$58,200	2
273043	Writers and Authors		278	6	2	33.3%	4	66.7%	\$49,840	N/A
273091	Interpreters and Translators		161	6	4	66.7%	2	33.3%	\$45,096	1
274000	Media and Communication Equipment Workers		478	12	3	25.0%	9	75.0%	\$32,738	4
274012	Broadcast Technicians		64	1	0	0.0%	1	100.0%	\$31,967	N/A
274021	Photographers		252	8	2	25.0%	6	75.0%	\$37,736	1
290000	Healthcare Practitioners and Technical Occupations		23,249	779	341	43.8%	438	56.2%	\$64,556	704
291000	Health Diagnosing and Treating Practitioners		13,690	485	214	44.1%	271	55.9%	\$80,348	293
291011	Chiropractors		123	4	2	50.0%	2	50.0%	N/A	N/A
291021	Dentists, General		139	4	2	50.0%	2	50.0%	\$225,826	6
291031	Dietitians and Nutritionists		178	5	4	80.0%	1	20.0%	\$56,103	8
291041	Optometrists		123	6	2	33.3%	4	66.7%	\$98,476	12
291051	Pharmacists		767	20	3	15.0%	17	85.0%	\$121,228	33
291062	Family and General Practitioners		189	7	2	28.6%	5	71.4%	\$160,733	27
291063	Internists, General		70	3	1	33.3%	2	66.7%	\$250,213	19
291065	Pediatricians, General		21	0	0	0.0%	0	0.0%	\$172,675	7

291066	Psychiatrists		29	1	0	0.0%	1	100.0%	\$222,993	12
291069	Physicians and Surgeons, All Other		928	35	14	40.0%	21	60.0%	\$236,679	67
291071	Physician Assistants		194	8	5	62.5%	3	37.5%	\$119,847	38
291081	Podiatrists		17	0	0	0.0%	0	0.0%	\$111,694	N/A
291122	Occupational Therapists		294	10	5	50.0%	5	50.0%	\$83,794	51
291123	Physical Therapists		670	30	16	53.3%	14	46.7%	\$81,725	56
291124	Radiation Therapists		42	1	0	0.0%	1	100.0%	\$83,000	0
291125	Recreational Therapists		17	0	0	0.0%	0	0.0%	\$49,220	1
291126	Respiratory Therapists		319	11	5	45.5%	6	54.5%	\$52,197	22
291127	Speech-Language Pathologists		381	16	8	50.0%	8	50.0%	\$77,843	57
291128	Therapists, All Other*		114	3	2	66.7%	1	33.3%	\$53,494	1
291129	Therapists, All Other		114	4	3	75.0%	1	25.0%	\$53,075	N/A
291131	Veterinarians		158	4	2	50.0%	2	50.0%	\$82,284	2
291141	Registered Nurses		7,923	279	121	43.4%	158	56.6%	\$54,800	776
291171	Nurse Practitioners		421	19	12	63.2%	7	36.8%	\$96,907	50
291199	Health Diagnosing & Treating Practitioners, Other		35	1	0	0.0%	1	100.0%	\$59,985	N/A
292000	Health Technologists and Technicians		9,180	282	122	43.3%	160	56.7%	\$41,028	407
292011	Medical and Clinical Laboratory Technologists		381	13	5	38.5%	8	61.5%	\$56,251	20
292012	Medical and Clinical Laboratory Technicians		472	17	8	47.1%	9	52.9%	\$36,907	7
292021	Dental Hygienists		681	19	9	47.4%	10	52.6%	\$61,245	3
292031	Cardiovascular Technologists and Technicians		158	5	3	60.0%	2	40.0%	\$48,508	19
292032	Diagnostic Medical Sonographers		147	5	3	60.0%	2	40.0%	\$61,978	14
292033	Nuclear Medicine Technologists		47	1	0	0.0%	1	100.0%	\$65,562	2
292034	Radiologic Technologists		540	14	5	35.7%	9	64.3%	\$51,939	26
292035	Magnetic Resonance Imaging Technologists		87	3	1	33.3%	2	66.7%	\$57,086	N/A
292041	Emergency Medical Technicians and Paramedics		846	24	12	50.0%	12	50.0%	\$34,132	28
292052	Pharmacy Technicians		975	19	10	52.6%	9	47.4%	\$28,726	48
292053	Psychiatric Technicians		248	6	4	66.7%	2	33.3%	N/A	4
292055	Surgical Technologists		369	9	6	66.7%	3	33.3%	\$38,644	31
292056	Veterinary Technologists and Technicians		153	4	3	75.0%	1	25.0%	\$32,407	N/A
292057	Ophthalmic Medical Technicians		60	1	1	100.0%	0	0.0%	\$33,063	1
292061	Licensed Practical and Licensed Vocational Nurses		2,685	97	29	29.9%	68	70.1%	\$40,478	151
292071	Medical Records and Health Information Technicians		576	20	9	45.0%	11	55.0%	\$38,246	34
292081	Opticians, Dispensing		322	13	6	46.2%	7	53.8%	\$27,776	1
292099	Health Technologists and Technicians, All Other		215	6	4	66.7%	2	33.3%	\$45,562	9
299000	Other Healthcare Practitioners and Technical Occ.		379	11	5	45.5%	6	54.5%	\$51,841	4
299011	Occupational Health and Safety Specialists		172	4	1	25.0%	3	75.0%	\$57,187	1
299091	Athletic Trainers		62	3	2	66.7%	1	33.3%	\$40,025	1
299099	Healthcare Practitioners & Tech. Workers, Other		130	4	2	50.0%	2	50.0%	\$57,897	N/A
310000	Healthcare Support Occupations		12,921	461	223	48.4%	238	51.6%	\$26,991	419
311000	Nursing, Psychiatric, and Home Health Aides		7,942	285	137	48.1%	148	51.9%	\$22,912	175
311011	Home Health Aides		2,584	117	76	65.0%	41	35.0%	\$21,343	43
311013	Psychiatric Aides		214	7	3	42.9%	4	57.1%	N/A	N/A
311014	Nursing Assistants		5,095	159	57	35.8%	102	64.2%	\$23,634	132
311015	Orderlies		49	2	1	50.0%	1	50.0%	\$23,557	N/A
312000	Occ. & Physical Therapist Assistants & Aides		672	33	19	57.6%	14	42.4%	\$49,721	26
312011	Occupational Therapy Assistants		231	12	7	58.3%	5	41.7%	\$55,517	9

312012	Occupational Therapy Aides		16	0	0	0.0%	0	0.0%	N/A	N/A
312021	Physical Therapist Assistants		356	18	10	55.6%	8	44.4%	\$52,021	17
312022	Physical Therapist Aides		69	3	2	66.7%	1	33.3%	\$23,563	N/A
319000	Other Healthcare Support Occupations		4,307	143	67	46.9%	76	53.1%	\$31,130	217
319011	Massage Therapists		269	8	6	75.0%	2	25.0%	\$31,848	4
319091	Dental Assistants		829	29	11	37.9%	18	62.1%	\$37,093	6
319092	Medical Assistants		1,941	66	32	48.5%	34	51.5%	\$27,580	145
319094	Medical Transcriptionists		161	4	0	0.0%	4	100.0%	\$31,661	1
319096	Veterinary Asst. and Laboratory Animal Caretakers		199	7	3	42.9%	4	57.1%	\$23,193	1
319097	Phlebotomists		322	11	6	54.5%	5	45.5%	\$31,519	15
319099	Healthcare Support Workers, All Other		462	16	8	50.0%	8	50.0%	\$35,346	30
330000	Protective Service Occupations		5,313	154	36	23.4%	118	76.6%	\$39,662	63
331000	First-Line Super./Manag., Protective Service Workers		406	15	2	13.3%	13	86.7%	\$55,002	8
331011	First-Line Supervisors of Correctional Officers		43	1	0	0.0%	1	100.0%	\$41,709	N/A
331012	First-Line Supervisors of Police and Detectives		148	6	1	16.7%	5	83.3%	\$59,525	N/A
331021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers		106	6	1	16.7%	5	83.3%	\$57,799	N/A
331099	First-Line Supervisors of Protective Service Workers, All Other		109	3	1	33.3%	2	66.7%	\$42,769	5
332000	Fire Fighting and Prevention Workers		627	21	4	19.0%	17	81.0%	\$44,588	N/A
333000	Law Enforcement Workers		1,907	67	11	16.4%	56	83.6%	\$44,946	7
333011	Bailiffs		29	1	0	0.0%	1	100.0%	\$34,064	N/A
333012	Correctional Officers and Jailers		448	15	3	20.0%	12	80.0%	\$34,513	1
333021	Detectives and Criminal Investigators		94	2	0	0.0%	2	100.0%	\$57,708	N/A
333051	Police and Sheriff's Patrol Officers		1,311	48	7	14.6%	41	85.4%	\$47,184	5
339000	Other Protective Service Workers		2,373	50	19	38.0%	31	62.0%	\$30,424	48
339032	Security Guards		1,736	35	13	37.1%	22	62.9%	\$33,529	36
339091	Crossing Guards		87	2	0	0.0%	2	100.0%	\$21,581	2
339092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers		319	8	4	50.0%	4	50.0%	\$17,226	1
339093	Transportation Security Screeners* (federal only)		45	1	0	0.0%	1	100.0%	\$38,172	N/A
339099	Protective Service Workers, All Other		160	3	1	33.3%	2	66.7%	\$31,719	4
350000	Food Preparation and Serving Related Occupations		34,694	1,508	381	25.3%	1,127	74.7%	\$20,199	315
351000	Supervisors, Food Preparation and Serving Workers		2,800	108	37	34.3%	71	65.7%	\$31,804	117
351011	Chefs and Head Cooks		118	4	2	50.0%	2	50.0%	\$40,042	6
351012	First-Line Supervisors/Managers of Food Preparation		2,682	104	35	33.7%	69	66.3%	\$31,462	111
352000	Cooks and Food Preparation Workers		8,695	306	96	31.4%	210	68.6%	\$20,168	47
352011	Cooks, Fast Food		861	26	0	0.0%	26	100.0%	\$17,885	1
352012	Cooks, Institution and Cafeteria		1,435	42	6	14.3%	36	85.7%	\$23,015	13
352014	Cooks, Restaurant		4,215	163	70	42.9%	93	57.1%	\$19,636	21
352015	Cooks, Short Order		366	10	0	0.0%	10	100.0%	\$19,295	4
352021	Food Preparation Workers		1,807	65	20	30.8%	45	69.2%	\$20,053	8
353000	Food and Beverage Serving Workers		20,322	934	233	24.9%	701	75.1%	\$19,013	133
353011	Bartenders		1,593	75	24	32.0%	51	68.0%	\$19,905	5
353021	Combined Food Preparation and Serving Workers, Incl. Fast Food		10,829	450	148	32.9%	302	67.1%	\$18,249	82
353022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop		922	58	7	12.1%	51	87.9%	\$17,790	2
353031	Waiters and Waitresses		6,345	328	44	13.4%	284	86.6%	\$19,925	31
353041	Food Servers, Nonrestaurant		633	23	10	43.5%	13	56.5%	\$20,543	12
359000	Other Food Preparation and Serving Related Workers		2,877	161	16	9.9%	145	90.1%	\$18,050	16

413041	Travel Agents		67	1	0	0.0%	1	100.0%	\$30,039	N/A
413099	Sales Representatives, Services, All Other		1,314	37	11	29.7%	26	70.3%	\$49,222	40
414000	Sales Representatives, Wholesale & Manufacturing		4,691	122	32	26.2%	90	73.8%	\$67,772	132
414011	Sales Representatives, Wholesale & Manufacturing-Tech & Sci Products		535	13	3	23.1%	10	76.9%	\$98,290	31
414012	Sales Representatives, Wholesale & Manufacturing-Exc.Tech & Sci Prod		4,156	109	30	27.5%	79	72.5%	\$63,528	101
419000	Other Sales and Related Workers		1,342	24	8	33.3%	16	66.7%	\$50,605	60
419021	Real Estate Brokers		149	2	1	50.0%	1	50.0%	N/A	N/A
419022	Real Estate Sales Agents		374	4	2	50.0%	2	50.0%	\$45,815	2
419031	Sales Engineers		189	6	2	33.3%	4	66.7%	\$87,848	6
419041	Telemarketers		148	3	0	0.0%	3	100.0%	\$23,094	10
419099	Sales and Related Workers, All Other		131	4	2	50.0%	2	50.0%	\$46,972	N/A
430000	Office and Administrative Support Occupations		48,228	1,234	268	21.7%	966	78.3%	\$32,144	600
431000	Supervisors, Office & Admin. Support Workers		2,740	63	25	39.7%	38	60.3%	\$49,412	98
431011	First-Line Supervisors/Managers of Office and Admin. Support Worker		2,740	63	25	39.7%	38	60.3%	\$49,412	98
432000	Communications Equipment Operators		123	2	0	0.0%	2	100.0%	\$26,178	2
433000	Financial Clerks		8,100	175	18	10.3%	157	89.7%	\$32,093	105
433011	Bill and Account Collectors		508	13	0	0.0%	13	100.0%	\$32,902	6
433021	Billing and Posting Clerks and Machine Operators		1,335	42	18	42.9%	24	57.1%	\$32,959	8
433031	Bookkeeping, Accounting, and Auditing Clerks		4,209	44	0	0.0%	44	100.0%	\$33,685	53
433051	Payroll and Timekeeping Clerks		411	11	0	0.0%	11	100.0%	\$36,797	4
433071	Tellers		1,368	56	0	0.0%	56	100.0%	\$24,282	33
434000	Information and Record Clerks		11,285	340	77	22.6%	263	77.4%	\$30,721	140
434011	Brokerage Clerks		194	5	0	0.0%	5	100.0%	\$44,370	N/A
434031	Court, Municipal, and License Clerks		165	2	1	50.0%	1	50.0%	\$31,846	N/A
434041	Credit Authorizers, Checkers, and Clerks		23	0	0	0.0%	0	0.0%	\$38,987	N/A
434051	Customer Service Representatives		5,092	155	39	25.2%	116	74.8%	\$33,454	125
434061	Eligibility Interviewers, Government Programs		203	3	1	33.3%	2	66.7%	\$33,251	1
434071	File Clerks		146	3	0	0.0%	3	100.0%	\$29,724	1
434081	Hotel, Motel, and Resort Desk Clerks		399	22	3	13.6%	19	86.4%	\$19,629	12
434111	Interviewers, Except Eligibility and Loan		644	19	6	31.6%	13	68.4%	\$28,721	7
434121	Library Assistants, Clerical		483	17	3	17.6%	14	82.4%	\$23,114	1
434131	Loan Interviewers and Clerks		388	9	4	44.4%	5	55.6%	\$30,798	2
434141	New Accounts Clerks		160	4	0	0.0%	4	100.0%	\$31,018	0
434151	Order Clerks		590	17	0	0.0%	17	100.0%	\$32,957	2
434161	Human Resources Assistants, Ex Payroll and Timekeeping		318	4	0	0.0%	4	100.0%	\$35,854	14
434171	Receptionists and Information Clerks		2,015	67	17	25.4%	50	74.6%	\$26,505	14
434199	Information and Record Clerks, All Other		357	11	3	27.3%	8	72.7%	\$32,455	N/A
435000	Material Recording, Scheduling, Dispatching, and Dist. Wkrs.		10,823	334	58	17.4%	276	82.6%	\$31,502	112
435011	Cargo and Freight Agents		131	6	2	33.3%	4	66.7%	\$43,208	1
435021	Couriers and Messengers		153	4	2	50.0%	2	50.0%	\$24,522	N/A
435031	Police, Fire, and Ambulance Dispatchers		228	6	0	0.0%	6	100.0%	\$35,802	2
435032	Dispatchers, Except Police, Fire, and Ambulance		564	16	2	12.5%	14	87.5%	\$39,950	7
435041	Meter Readers, Utilities		41	1	0	0.0%	1	100.0%	\$39,360	N/A
435051	Postal Service Clerks		137	2	0	0.0%	2	100.0%	\$49,160	N/A
435052	Postal Service Mail Carriers		648	15	0	0.0%	15	100.0%	\$50,529	0
435053	Postal Service Mail Sorters, Processors, and Processing Machine Op.		119	2	0	0.0%	2	100.0%	\$53,609	N/A
435061	Production, Planning, and Expediting Clerks		1,200	38	7	18.4%	31	81.6%	\$47,098	12

Employment Outlook Projections for U.S. Click Column Name to Sort

SOC Code	Job Title	Projected Demand (2024)	Avg. Annual Openings	Avg. Annual New Openings	Percent of Total Openings	Avg. Annual Replacement Openings	Percent of Total Openings	Avg. Annual Wage in (2015)
0	Total	160,328,800	46,506,900	11,180,900	24.0%	35,326,000	76.0%	\$48,320
110000	Management Occupations	9,662,900	2,586,800	538,800	20.8%	2,048,000	79.2%	\$115,020
111000	Top Executives	2,672,500	760,000	151,100	19.9%	608,900	80.1%	\$124,210
111011	Chief Executives	339,400	58,400	0	0.0%	58,400	100.0%	\$185,850
111021	General and Operations Managers	2,275,200	688,800	151,100	21.9%	537,700	78.1%	\$119,460
111031	Legislators	57,900	12,900	0	0.0%	12,900	100.0%	\$42,530
112000	Advertising, Marketing, Promotions, Public Relations, and Sales Managers	710,700	210,700	43,400	20.6%	167,300	79.4%	\$131,670
112011	Advertising and Promotions Managers	32,400	11,400	1,500	13.2%	9,900	86.8%	\$113,610
112020	Marketing and Sales Managers	607,800	172,200	37,300	21.7%	134,900	78.3%	\$133,950
112021	Marketing Managers	212,500	64,200	18,300	28.5%	45,900	71.5%	\$140,660
112022	Sales Managers	395,300	108,000	19,000	17.6%	89,000	82.4%	\$130,400
112031	Public Relations and Fundraising Managers	70,500	27,100	4,600	17.0%	22,500	83.0%	\$119,390
113000	Operations Specialties Managers	1,847,700	499,900	132,200	26.4%	367,700	73.6%	\$120,900
113011	Administrative Services Managers	310,800	77,200	23,500	30.4%	53,700	69.6%	\$94,840
113021	Computer and Information Systems Managers	402,200	94,800	53,700	56.6%	41,100	43.4%	\$141,000
113031	Financial Managers	593,500	169,300	37,700	22.3%	131,600	77.7%	\$134,330
113051	Industrial Production Managers	167,000	49,100	0	0.0%	49,100	100.0%	\$103,720
113061	Purchasing Managers	73,700	17,900	700	3.9%	17,200	96.1%	\$114,130
113071	Transportation, Storage & Distribution Managers	114,100	27,100	2,500	9.2%	24,600	90.8%	\$95,130
113111	Compensation and Benefits Managers	18,000	6,000	1,100	18.3%	4,900	81.7%	\$121,630
113121	Human Resource Managers	133,300	46,600	10,800	23.2%	35,800	76.8%	\$117,080
113131	Training and Development Managers	35,200	11,900	2,300	19.3%	9,600	80.7%	\$111,680
119000	Other Management Occupations	4,431,900	1,116,200	212,100	19.0%	904,100	81.0%	\$95,360
119013	Farmers, Ranchers, and Other Agricultural Managers	911,700	158,400	0	0.0%	158,400	100.0%	\$69,880
119021	Construction Managers	391,100	70,100	17,900	25.5%	52,200	74.5%	\$97,510
119030	Education Administrators	551,800	185,200	34,900	18.8%	150,300	81.2%	\$90,970
119031	Education Administrators, Preschool & Child Care	68,200	22,900	4,300	18.8%	18,600	81.2%	\$52,760
119032	Education Administrators, Elementary & Secondary	254,000	83,800	14,000	16.7%	69,800	83.3%	\$92,940
119033	Education Administrators, Postsecondary	190,300	66,100	15,200	23.0%	50,900	77.0%	\$102,610
119039	Education Administrators, All Other	39,300	12,500	1,500	12.0%	11,000	88.0%	\$82,970
119041	Architectural and Engineering Managers	185,800	59,500	3,700	6.2%	55,800	93.8%	\$141,650
119051	Food Service Managers	320,700	77,100	15,700	20.4%	61,400	79.6%	\$53,640
119061	Funeral Service Managers	30,300	7,400	900	12.2%	6,500	87.8%	\$84,470
119071	Gaming Managers	3,800	800	0	0.0%	800	100.0%	\$77,770
119081	Lodging Managers	52,100	13,000	3,700	28.5%	9,300	71.5%	\$57,810
119111	Medical and Health Services Managers	389,300	140,500	56,300	40.1%	84,200	59.9%	\$106,070
119121	Natural Sciences Managers	56,900	13,300	1,900	14.3%	11,400	85.7%	\$136,570
119131	Postmasters and Mail Superintendents	12,800	3,800	0	0.0%	3,800	100.0%	\$70,540
119141	Property, Real Estate & Community Association Mgr	339,100	79,900	25,300	31.7%	54,600	68.3%	\$68,240
119151	Social and Community Service Managers	151,700	49,800	13,200	26.5%	36,600	73.5%	\$69,430
119161	Emergency Management Directors	11,200	1,900	600	31.6%	1,300	68.4%	\$73,750
119199	Managers, All Other	1,023,600	255,400	37,900	14.8%	217,500	85.2%	\$111,230

130000	Business and Financial Operations Occupations	8,197,800	2,191,700	656,500	30.0%	1,535,200	70.0%	\$73,800
131000	Business Operations Specialists	5,054,200	1,204,500	353,600	29.4%	850,900	70.6%	\$70,900
131011	Agents and Business Managers of Artists, Performers, and Athletes	20,200	6,800	500	7.4%	6,300	92.6%	\$95,810
131020	Buyers and Purchasing Agents	450,300	135,100	8,700	6.4%	126,400	93.6%	\$64,170
131021	Purchasing Agents and Buyers, Farm Products	13,500	3,300	600	18.2%	2,700	81.8%	\$62,280
131022	Wholesale and Retail Buyers, Except Farm Products	137,500	49,100	8,000	16.3%	41,100	83.7%	\$59,270
131023	Purchasing Agents, Exc Wholesale, Retail & Farm	299,300	82,700	0	0.0%	82,700	100.0%	\$66,120
131030	Claims Adjusters, Appraisers, Examiners, and Investigators	324,900	87,900	9,800	11.1%	78,100	88.9%	\$64,350
131031	Claims Adjusters, Examiners, and Investigators	309,500	84,000	9,800	11.7%	74,200	88.3%	\$64,300
131032	Insurance Appraisers, Auto Damage	15,400	3,800	0	0.0%	3,800	100.0%	\$65,300
131041	Compliance Officers	269,000	45,300	8,700	19.2%	36,600	80.8%	\$69,180
131051	Cost Estimators	232,300	79,500	18,700	23.5%	60,800	76.5%	\$64,810
131070	Human Resources, Training, and Labor Relations Specialists	579,600	159,300	22,000	13.8%	137,300	86.2%	\$63,280
131071	Human Resources Specialists	503,900	139,300	22,000	15.8%	117,300	84.2%	\$63,710
131075	Labor Relations Specialists	75,600	20,000	0	0.0%	20,000	100.0%	\$60,930
131081	Logisticians	132,900	20,600	2,500	12.1%	18,100	87.9%	\$77,470
131111	Management Analysts	861,400	208,500	103,400	49.6%	105,100	50.4%	\$91,770
131121	Meeting, Convention, and Event Planners	109,900	21,800	9,900	45.4%	11,900	54.6%	\$51,200
131131	Fundraisers	80,300	17,100	6,900	40.4%	10,200	59.6%	\$57,170
131141	Compensation, Benefits, and Job Analysis Specialists	88,100	24,000	3,400	14.2%	20,600	85.8%	\$65,100
131151	Training and Development Specialists	271,500	80,400	18,900	23.5%	61,500	76.5%	\$62,460
131161	Market Research Analysts and Marketing Specialists	587,800	151,400	92,400	61.0%	59,000	39.0%	\$70,030
131199	Business Operations Specialists, All Other	1,046,000	166,900	48,000	28.8%	118,900	71.2%	\$73,480
132000	Financial Specialists	3,143,500	987,200	302,900	30.7%	684,300	69.3%	\$78,730
132011	Accountants and Auditors	1,475,100	498,000	142,300	28.6%	355,700	71.4%	\$75,280
132021	Appraisers and Assessors of Real Estate	92,500	20,500	6,700	32.7%	13,800	67.3%	\$58,400
132031	Budget Analysts	62,300	16,700	1,600	9.6%	15,100	90.4%	\$75,150
132041	Credit Analysts	73,600	34,300	4,200	12.2%	30,100	87.8%	\$79,720
132050	Financial Analysts and Advisors	724,800	245,400	106,200	43.3%	139,200	56.7%	\$99,730
132051	Financial Analysts	310,000	89,400	32,300	36.1%	57,100	63.9%	\$95,320
132052	Personal Financial Advisors	323,200	136,400	73,800	54.1%	62,600	45.9%	\$118,050
132053	Insurance Underwriters	91,600	19,500	0	0.0%	19,500	100.0%	\$72,650
132061	Financial Examiners	42,000	13,100	3,700	28.2%	9,400	71.8%	\$88,310
132070	Loan Counselors and Officers	365,300	85,400	29,600	34.7%	55,800	65.3%	\$72,810
132071	Loan Counselors	37,600	10,500	5,100	48.6%	5,400	51.4%	\$49,310
132072	Loan Officers	327,700	75,000	24,600	32.8%	50,400	67.2%	\$75,170
132080	Tax Exam., Collectors, Preparers & Revenue Agents	155,600	51,900	1,400	2.7%	50,500	97.3%	\$50,410
132081	Tax Examiners, Collectors, and Revenue Agents	63,700	27,800	0	0.0%	27,800	100.0%	\$57,280
132082	Tax Preparers	91,800	24,100	1,500	6.2%	22,600	93.8%	\$44,730
132099	Financial Specialists, All Other	152,300	21,900	7,100	32.4%	14,800	67.6%	\$72,480
150000	Computer and Mathematical Occupations	4,599,700	1,156,800	557,900	48.2%	598,900	51.8%	\$86,170
151100	Computer Occupations	4,404,600	1,083,800	514,900	47.5%	568,900	52.5%	\$86,090
151111	Computer and Information Research Scientists	28,300	6,000	2,700	45.0%	3,300	55.0%	\$115,580
151120	Computer and Information Analysts	784,100	217,100	133,400	61.4%	83,700	38.6%	\$90,600
151121	Computer Systems Analysts	686,300	191,600	118,500	61.8%	73,100	38.2%	\$90,180
151122	Information Security Analysts	97,700	25,500	14,800	58.0%	10,700	42.0%	\$93,250

151130	Software Developers and Programmers	1,790,800	485,400	226,100	46.6%	259,300	53.4%	\$97,930
151131	Computer Programmers	302,200	81,000	0	0.0%	81,000	100.0%	\$84,360
151132	Software Developers, Applications	853,700	238,000	135,300	56.8%	102,700	43.2%	\$102,160
151133	Software Developers, Systems Software	447,000	107,900	51,400	47.6%	56,500	52.4%	\$108,760
151134	Web Developers	188,000	58,600	39,500	67.4%	19,100	32.6%	\$70,660
151140	Database and Systems Administrators and Network Architects	705,000	150,100	56,200	37.4%	93,900	62.6%	\$87,400
151141	Database Administrators	133,400	39,200	13,300	33.9%	25,900	66.1%	\$84,250
151142	Network and Computer Systems Administrators (part)	412,800	79,400	30,200	38.0%	49,200	62.0%	\$82,200
151143	Computer Network Architects	158,900	31,500	12,700	40.3%	18,800	59.7%	\$103,100
151150	Computer Support Specialists	855,700	187,400	88,700	47.3%	98,700	52.7%	\$55,980
151151	Computer User Support Specialists	661,000	150,500	75,100	49.9%	75,400	50.1%	\$52,430
151152	Computer Network Support Specialists	194,600	36,900	13,600	36.9%	23,300	63.1%	\$67,260
151199	Computer Occupations, All Other	240,800	37,700	7,700	20.4%	30,000	79.6%	\$87,310
152000	Mathematical Scientists	195,100	73,000	43,000	58.9%	30,000	41.1%	\$88,040
152011	Actuaries	29,000	11,700	4,400	37.6%	7,300	62.4%	\$110,560
152021	Mathematicians	4,200	1,300	700	53.8%	600	46.2%	\$112,560
152031	Operations Research Analysts	118,900	43,900	27,600	62.9%	16,300	37.1%	\$84,180
152041	Statisticians	40,100	15,400	10,100	65.6%	5,300	34.4%	\$84,440
152090	Miscellaneous Mathematical Scientists	2,900	600	100	16.7%	500	83.3%	\$70,820
152091	Mathematical Technicians	1,100	200	0	0.0%	200	100.0%	\$53,630
152099	Mathematical Scientists, All Other	1,900	400	100	25.0%	300	75.0%	\$78,310
170000	Architecture and Engineering Occupations	2,599,900	710,900	90,400	12.7%	620,500	87.3%	\$82,980
171000	Architects, Surveyors, and Cartographers	203,500	52,500	12,700	24.2%	39,800	75.8%	\$74,580
171010	Architects, Except Naval	144,200	31,300	9,100	29.1%	22,200	70.9%	\$80,370
171011	Architects, Except Landscape and Naval	120,400	26,300	7,800	29.7%	18,500	70.3%	\$82,850
171012	Landscape Architects	23,700	4,900	1,200	24.5%	3,700	75.5%	\$68,600
171020	Surveyors, Cartographers, and Photogrammetrists	59,300	21,200	3,600	17.0%	17,600	83.0%	\$62,650
171021	Cartographers and Photogrammetrists	15,900	7,400	3,600	48.6%	3,800	51.4%	\$65,410
171022	Surveyors	43,400	13,700	0	0.0%	13,700	100.0%	\$61,880
172000	Engineers	1,701,200	510,900	69,300	13.6%	441,600	86.4%	\$95,240
172011	Aerospace Engineers	70,800	20,700	0	0.0%	20,700	100.0%	\$110,570
172021	Agricultural Engineers	3,000	700	100	14.3%	600	85.7%	\$78,490
172031	Biomedical Engineers	27,200	10,900	5,100	46.8%	5,800	53.2%	\$91,230
172041	Chemical Engineers	34,900	10,000	600	6.0%	9,400	94.0%	\$103,960
172051	Civil Engineers	305,000	106,700	23,600	22.1%	83,100	77.9%	\$87,940
172061	Computer Hardware Engineers	80,100	18,400	2,400	13.0%	16,000	87.0%	\$114,970
172070	Electrical and Electronics Engineers	315,700	71,400	1,800	2.5%	69,600	97.5%	\$99,520
172071	Electrical Engineers	180,200	41,100	1,800	4.4%	39,300	95.6%	\$97,340
172072	Electronics Engineers, Except Computer	135,500	30,300	0	0.0%	30,300	100.0%	\$102,390
172081	Environmental Engineers	62,000	22,400	6,800	30.4%	15,600	69.6%	\$88,040
172110	Industrial Engineers, Including Health and Safety	270,000	81,800	3,700	4.5%	78,100	95.5%	\$87,070
172111	Health and Safety Engineers, Except Mining Safety	26,800	9,000	1,600	17.8%	7,400	82.2%	\$87,810
172112	Industrial Engineers	243,200	72,800	2,100	2.9%	70,700	97.1%	\$86,990
172121	Marine Engineers and Naval Architects	9,000	2,900	700	24.1%	2,200	75.9%	\$100,090
172131	Materials Engineers	25,600	9,200	300	3.3%	8,900	96.7%	\$94,690
172141	Mechanical Engineers	292,100	102,500	14,600	14.2%	87,900	85.8%	\$88,190
172151	Mining and Geological Engineers, Including Mining	8,800	2,700	500	18.5%	2,200	81.5%	\$107,880

172161	Nuclear Engineers	16,200	4,400	0	0.0%	4,400	100.0%	\$106,060
172171	Petroleum Engineers	38,500	13,000	3,400	26.2%	9,600	73.8%	\$149,590
172199	Engineers, All Other	142,300	33,000	5,500	16.7%	27,500	83.3%	\$98,150
173000	Drafters, Engineering, and Mapping Technicians	695,100	147,500	8,500	5.8%	139,000	94.2%	\$56,650
173010	Drafters	198,300	25,800	1,600	6.2%	24,200	93.8%	\$55,820
173011	Architectural and Civil Drafters	91,200	11,100	0	0.0%	11,100	100.0%	\$53,470
173012	Electrical and Electronics Drafters	31,700	5,200	1,600	30.8%	3,600	69.2%	\$62,890
173013	Mechanical Drafters	61,200	7,800	0	0.0%	7,800	100.0%	\$56,610
173019	Drafters, All Other	14,200	1,700	0	0.0%	1,700	100.0%	\$53,660
173020	Engineering Technicians, Except Drafters	443,900	115,200	6,900	6.0%	108,300	94.0%	\$58,490
173021	Aerospace Engineering and Operations Technicians	11,800	3,200	400	12.5%	2,800	87.5%	\$68,620
173022	Civil Engineering Technicians	77,600	21,600	3,500	16.2%	18,100	83.8%	\$51,330
173023	Electrical and Electronic Engineering Technicians	136,600	34,100	0	0.0%	34,100	100.0%	\$61,870
173024	Electro-Mechanical Technicians	14,800	3,700	100	2.7%	3,600	97.3%	\$56,320
173025	Environmental Engineering Technicians	20,400	6,400	1,900	29.7%	4,500	70.3%	\$51,170
173026	Industrial Engineering Technicians	63,500	16,300	0	0.0%	16,300	100.0%	\$56,320
173027	Mechanical Engineering Technicians	49,300	12,800	1,000	7.8%	11,800	92.2%	\$56,390
173029	Engineering Technicians, Exc. Drafters, All Other	69,900	17,100	0	0.0%	17,100	100.0%	\$62,820
173031	Surveying and Mapping Technicians	52,900	6,500	0	0.0%	6,500	100.0%	\$44,800
190000	Life, Physical, and Social Science Occupations	1,408,000	472,600	100,900	21.3%	371,700	78.7%	\$71,220
191000	Life Scientists	330,000	116,600	19,200	16.5%	97,400	83.5%	\$81,920
191010	Agricultural and Food Scientists	38,000	14,500	2,000	13.8%	12,500	86.2%	\$69,230
191011	Animal Scientists	3,200	1,200	200	16.7%	1,000	83.3%	\$71,830
191012	Food Scientists and Technologists	16,000	5,900	500	8.5%	5,400	91.5%	\$72,030
191013	Soil and Plant Scientists	18,900	7,300	1,200	16.4%	6,100	83.6%	\$65,980
191020	Biological Scientists	118,400	35,000	4,500	12.9%	30,500	87.1%	\$79,610
191021	Biochemists and Biophysicists	36,900	11,900	2,800	23.5%	9,100	76.5%	\$93,390
191022	Microbiologists	23,200	6,800	800	11.8%	6,000	88.2%	\$76,230
191023	Zoologists and Wildlife Biologists	22,200	6,600	900	13.6%	5,700	86.4%	\$64,230
191029	Biological Scientists, All Other	36,200	9,700	0	0.0%	9,700	100.0%	\$77,190
191030	Conservation Scientists and Foresters	39,300	18,700	2,800	15.0%	15,900	85.0%	\$62,860
191031	Conservation Scientists	22,500	10,600	1,400	13.2%	9,200	86.8%	\$63,800
191032	Foresters	16,800	8,000	1,300	16.3%	6,700	83.8%	\$60,650
191040	Medical Scientists	123,000	44,500	9,300	20.9%	35,200	79.1%	\$92,900
191041	Epidemiologists	6,100	2,200	400	18.2%	1,800	81.8%	\$76,900
191042	Medical Scientists, Except Epidemiologists	116,800	42,400	9,000	21.2%	33,400	78.8%	\$93,730
191099	Life Scientists, All Other	11,300	4,000	700	17.5%	3,300	82.5%	\$79,870
192000	Physical Scientists	316,600	92,700	19,900	21.5%	72,800	78.5%	\$85,180
192010	Astronomers and Physicists	21,400	5,300	1,500	28.3%	3,800	71.7%	\$117,660
192011	Astronomers	1,900	400	0	0.0%	400	100.0%	\$110,220
192012	Physicists	19,500	4,900	1,500	30.6%	3,400	69.4%	\$118,500
192021	Atmospheric and Space Scientists	12,900	3,300	1,100	33.3%	2,200	66.7%	\$90,210
192030	Chemists and Materials Scientists	101,000	24,200	2,600	10.7%	21,600	89.3%	\$79,130
192031	Chemists	93,500	22,400	2,400	10.7%	20,000	89.3%	\$77,860
192032	Materials Scientists	7,500	1,800	200	11.1%	1,600	88.9%	\$94,940
192040	Environmental Scientists and Geoscientists	152,500	56,900	14,400	25.3%	42,500	74.7%	\$82,480

192041	Environmental Scientists and Specialists, Including Health	104,800	39,300	10,200	26.0%	29,100	74.0%	\$73,930
192042	Geoscientists, Except Hydrologists & Geographers	40,200	15,000	3,800	25.3%	11,200	74.7%	\$105,720
192043	Hydrologists	7,500	2,600	400	15.4%	2,200	84.6%	\$83,440
192099	Physical Scientists, All Other	28,800	3,000	300	10.0%	2,700	90.0%	\$98,240
193000	Social Scientists and Related Workers	344,700	97,200	38,500	39.6%	58,700	60.4%	\$78,520
193011	Economists	22,700	7,000	1,200	17.1%	5,800	82.9%	\$109,230
193022	Survey Researchers	18,700	3,900	1,900	48.7%	2,000	51.3%	\$59,340
193030	Psychologists	206,400	69,800	32,600	46.7%	37,200	53.3%	\$77,950
193031	Clinical, Counseling, and School Psychologists	185,900	63,800	30,500	47.8%	33,300	52.2%	\$76,040
193032	Industrial-Organizational Psychologists	2,300	800	400	50.0%	400	50.0%	\$92,320
193039	Psychologists, All Other	18,300	5,200	1,600	30.8%	3,600	69.2%	\$93,050
193041	Sociologists	2,500	300	0	0.0%	300	100.0%	\$82,100
193051	Urban and Regional Planners	40,400	9,400	2,400	25.5%	7,000	74.5%	\$70,680
193090	Miscellaneous Social Scientists & Related Workers	53,900	6,800	300	4.4%	6,500	95.6%	\$78,790
193091	Anthropologists and Archeologists	8,000	1,200	300	25.0%	900	75.0%	\$64,290
193092	Geographers	1,400	200	0	0.0%	200	100.0%	\$74,920
193093	Historians	3,500	500	100	20.0%	400	80.0%	\$61,120
193094	Political Scientists	6,000	700	0	0.0%	700	100.0%	\$103,210
193099	Social Scientists and Related Workers, All Other	34,900	4,200	0	0.0%	4,200	100.0%	\$80,650
194000	Life, Physical, and Social Science Technicians	416,700	166,100	23,300	14.0%	142,800	86.0%	\$47,640
194011	Agricultural and Food Science Technicians	34,700	12,400	1,600	12.9%	10,800	87.1%	\$39,000
194021	Biological Technicians	83,500	26,300	4,200	16.0%	22,100	84.0%	\$45,230
194031	Chemical Technicians	67,700	21,100	1,300	6.2%	19,800	93.8%	\$48,730
194041	Geological and Petroleum Technicians	18,500	8,000	1,900	23.8%	6,100	76.3%	\$60,710
194051	Nuclear Technicians	6,400	2,800	0	0.0%	2,800	100.0%	\$78,850
194061	Social Science Research Assistants	33,800	15,200	1,800	11.8%	13,400	88.2%	\$45,760
194090	Misc. Life, Physical, & Social Science Tech.	172,200	80,200	12,500	15.6%	67,700	84.4%	\$47,040
194091	Environmental Science and Protection Technicians, Incl. Health	39,600	18,600	3,400	18.3%	15,200	81.7%	\$46,540
194092	Forensic Science Technicians	18,200	9,900	3,900	39.4%	6,000	60.6%	\$60,090
194093	Forest and Conservation Technicians	30,800	13,700	0	0.0%	13,700	100.0%	\$38,260
194099	Life, Physical & Social Science Technicians, Other	83,500	38,100	5,300	13.9%	32,800	86.1%	\$48,360
210000	Community and Social Services Occupations	2,723,400	792,600	257,700	32.5%	534,900	67.5%	\$46,160
211000	Counselors, Social Workers, and Other Comm. and Soc. Service Specialists	2,269,400	672,600	235,700	35.0%	436,900	65.0%	\$46,170
211010	Counselors	777,000	233,200	89,400	38.3%	143,800	61.7%	\$48,790
211011	Substance Abuse & Behavioral Disorder Counselors	116,200	41,100	21,200	51.6%	19,900	48.4%	\$42,920
211012	Educational, Vocational, and School Counselors	295,900	79,700	22,500	28.2%	57,200	71.8%	\$56,490
211013	Marriage and Family Therapists	38,700	12,100	5,000	41.3%	7,100	58.7%	\$53,520
211014	Mental Health Counselors	160,900	54,500	26,400	48.4%	28,100	51.6%	\$45,080
211015	Rehabilitation Counselors	130,900	36,000	10,900	30.3%	25,100	69.7%	\$38,040
211019	Counselors, All Other	34,400	9,900	3,400	34.3%	6,500	65.7%	\$47,950
211020	Social Workers	724,100	231,200	74,800	32.4%	156,400	67.6%	\$49,670
211021	Child, Family, and School Social Workers	324,200	92,500	19,000	20.5%	73,500	79.5%	\$46,610
211022	Healthcare Social Workers	191,000	69,500	30,900	44.5%	38,600	55.5%	\$54,020
211023	Mental Health and Substance Abuse Social Workers	140,000	50,700	22,300	44.0%	28,400	56.0%	\$47,190
211029	Social Workers, All Other	68,900	18,500	2,500	13.5%	16,000	86.5%	\$57,970
211090	Misc. Community & Social Service Specialists	768,300	208,200	71,600	34.4%	136,600	65.6%	\$40,270

211091	Health Educators	68,900	19,500	7,500	38.5%	12,000	61.5%	\$56,690
211092	Probation Officers & Correctional Treatment Spec.	95,000	21,300	3,300	15.5%	18,000	84.5%	\$54,080
211093	Social and Human Service Assistants	430,800	120,000	44,200	36.8%	75,800	63.2%	\$33,190
211094	Community Health Workers	62,400	18,800	8,200	43.6%	10,600	56.4%	\$40,150
211099	Community and Social Service Specialists, Other	111,100	28,600	8,500	29.7%	20,100	70.3%	\$44,370
212000	Religious Workers	454,000	120,000	22,000	18.3%	98,000	81.7%	\$46,020
212011	Clergy	258,000	66,300	13,800	20.8%	52,500	79.2%	\$48,150
212021	Directors, Religious Activities and Education	137,500	41,200	5,600	13.6%	35,600	86.4%	\$45,160
212099	Religious Workers, All Other	58,500	12,500	2,600	20.8%	9,900	79.2%	\$35,160
230000	Legal Occupations	1,332,800	283,800	66,300	23.4%	217,500	76.6%	\$103,460
231000	Lawyers, Judges, and Related Workers	887,700	169,100	44,800	26.5%	124,300	73.5%	\$132,380
231010	Lawyers	834,100	160,400	43,900	27.4%	116,500	72.6%	\$134,710
231011	Lawyers	822,500	157,700	43,900	27.8%	113,800	72.2%	\$136,260
231012	Judicial Law Clerks	11,600	2,700	0	0.0%	2,700	100.0%	\$59,910
231020	Judges, Magistrates, and Other Judicial Workers	53,600	8,700	900	10.3%	7,800	89.7%	\$103,390
231021	Administrative Law Judges, Adjudicators, and Hearing Officers	14,500	2,200	0	0.0%	2,200	100.0%	\$93,140
231022	Arbitrators, Mediators, and Conciliators	9,200	2,000	800	40.0%	1,200	60.0%	\$69,060
231023	Judges, Magistrate Judges, and Magistrates	29,900	4,500	200	4.4%	4,300	95.6%	\$116,100
232000	Legal Support Workers	445,100	114,700	21,500	18.7%	93,200	81.3%	\$53,550
232011	Paralegals and Legal Assistants	300,800	82,700	21,300	25.8%	61,400	74.2%	\$52,390
232090	Miscellaneous Legal Support Workers	144,300	32,100	400	1.2%	31,700	98.8%	\$56,250
232091	Court Reporters	21,100	4,900	300	6.1%	4,600	93.9%	\$54,720
232093	Title Examiners, Abstractors, and Searchers	70,800	15,600	0	0.0%	15,600	100.0%	\$49,840
232099	Legal Support Workers, All Other	52,400	11,600	0	0.0%	11,600	100.0%	\$64,530
250000	Education, Training, and Library Occupations	9,913,700	2,661,100	698,100	26.2%	1,963,000	73.8%	\$53,000
251000	Postsecondary Teachers	2,088,800	550,600	219,900	39.9%	330,700	60.1%	\$77,480
251011	Business Teachers, Postsecondary	116,200	28,300	9,400	33.2%	18,900	66.8%	\$92,220
251020	Math and Computer Teachers, Postsecondary	121,100	33,100	14,200	42.9%	18,900	57.1%	\$80,140
251021	Computer Science Teachers, Postsecondary	47,200	11,500	3,800	33.0%	7,700	67.0%	\$84,700
251022	Mathematical Science Teachers, Postsecondary	73,900	21,700	10,500	48.4%	11,200	51.6%	\$77,290
251030	Engineering & Architecture Teachers, Postsecondary	61,900	16,600	6,900	41.6%	9,700	58.4%	\$101,040
251031	Architecture Teachers, Postsecondary	9,900	2,500	900	36.0%	1,600	64.0%	\$84,880
251032	Engineering Teachers, Postsecondary	52,000	14,200	6,100	43.0%	8,100	57.0%	\$104,220
251040	Life Sciences Teachers, Postsecondary	90,000	25,300	11,400	45.1%	13,900	54.9%	\$88,240
251041	Agricultural Sciences Teachers, Postsecondary	12,800	2,900	800	27.6%	2,100	72.4%	\$95,280
251042	Biological Science Teachers, Postsecondary	74,800	21,800	10,400	47.7%	11,400	52.3%	\$86,830
251043	Forestry & Conservation Science Teachers, Postsec.	2,400	600	200	33.3%	400	66.7%	\$91,030
251050	Physical Sciences Teachers, Postsecondary	72,700	19,800	8,400	42.4%	11,400	57.6%	\$89,840
251051	Atmospheric, Earth, Marine, and Space Sciences Tch., Postsec.	14,300	3,500	1,200	34.3%	2,300	65.7%	\$92,540
251052	Chemistry Teachers, Postsecondary	30,700	8,800	4,100	46.6%	4,700	53.4%	\$86,070
251053	Environmental Science Teachers, Postsecondary	7,300	1,800	600	33.3%	1,200	66.7%	\$88,570
251054	Physics Teachers, Postsecondary	20,400	5,800	2,700	46.6%	3,100	53.4%	\$93,950
251060	Social Sciences Teachers, Postsecondary	163,700	45,000	19,500	43.3%	25,500	56.7%	\$84,180
251061	Anthropology & Archeology Teachers, Postsecondary	8,200	2,000	700	35.0%	1,300	65.0%	\$85,440
251062	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	13,300	3,800	1,800	47.4%	2,000	52.6%	\$81,700
251063	Economics Teachers, Postsecondary	18,900	4,700	1,600	34.0%	3,100	66.0%	\$106,980
251064	Geography Teachers, Postsecondary	5,900	1,400	400	28.6%	1,000	71.4%	\$79,690

251065	Political Science Teachers, Postsecondary	23,700	5,900	2,100	35.6%	3,800	64.4%	\$88,680
251066	Psychology Teachers, Postsecondary	54,700	15,800	7,400	46.8%	8,400	53.2%	\$79,370
251067	Sociology Teachers, Postsecondary	23,900	6,800	3,100	45.6%	3,700	54.4%	\$76,750
251069	Social Sciences Teachers, Postsecondary, All Other	15,100	4,500	2,200	48.9%	2,300	51.1%	\$79,820
251070	Health Teachers, Postsecondary	332,200	102,600	53,200	51.9%	49,400	48.1%	\$104,470
251071	Health Specialties Teachers, Postsecondary	250,400	77,200	40,000	51.8%	37,200	48.2%	\$114,510
251072	Nursing Instructors and Teachers, Postsecondary	81,800	25,400	13,300	52.4%	12,100	47.6%	\$73,150
251080	Education & Library Science Teachers Postsecondary	88,600	21,700	7,300	33.6%	14,400	66.4%	\$68,560
251081	Education Teachers, Postsecondary	82,500	20,300	6,900	34.0%	13,400	66.0%	\$68,200
251082	Library Science Teachers, Postsecondary	6,000	1,400	400	28.6%	1,000	71.4%	\$73,030
251110	Law, Criminal Justice, and Social Work Teachers, Postsecondary	62,400	19,400	10,200	52.6%	9,200	47.4%	\$89,470
251111	Criminal Justice & Law Enforcement Teachers, Postsecondary	21,100	6,800	3,700	54.4%	3,100	45.6%	\$64,460
251112	Law Teachers, Postsecondary	25,700	8,300	4,600	55.4%	3,700	44.6%	\$126,230
251113	Social Work Teachers, Postsecondary	15,600	4,300	1,900	44.2%	2,400	55.8%	\$69,030
251120	Arts, Communications, and Humanities Teachers, Postsecondary	381,000	97,400	36,400	37.4%	61,000	62.6%	\$73,660
251121	Art, Drama, and Music Teachers, Postsecondary	133,700	34,400	13,000	37.8%	21,400	62.2%	\$76,710
251122	Communications Teachers, Postsecondary	39,500	9,900	3,500	35.4%	6,400	64.6%	\$70,290
251123	English Language & Literature Teachers, Postsec.	100,200	25,500	9,399	36.9%	16,100	63.1%	\$71,210
251124	Foreign Language and Literature Teachers Postsecondary	41,300	10,700	4,100	38.3%	6,600	61.7%	\$69,520
251125	History Teachers, Postsecondary	32,100	8,100	2,900	35.8%	5,200	64.2%	\$76,670
251126	Philosophy and Religion Teachers, Postsecondary	34,200	9,000	3,600	40.0%	5,400	60.0%	\$75,140
251190	Miscellaneous Postsecondary Teachers	598,800	141,300	42,900	30.4%	98,400	69.6%	\$55,920
251191	Graduate Teaching Assistants	169,100	38,000	9,800	25.8%	28,200	74.2%	\$32,510
251192	Home Economics Teachers, Postsecondary	3,800	800	0	0.0%	800	100.0%	\$69,090
251193	Recreation & Fitness Studies Teachers Postsecond.	24,300	6,100	2,200	36.1%	3,900	63.9%	\$66,090
251194	Vocational Education Teachers, Postsecondary	147,600	33,600	9,100	27.1%	24,500	72.9%	\$54,260
251199	Postsecondary Teachers, All Other	254,000	62,800	21,700	34.6%	41,100	65.4%	\$71,060
252000	Primary, Secondary & Special Education Teachers	4,374,100	1,199,600	242,200	20.2%	957,400	79.8%	\$56,370
252010	Preschool and Kindergarten Teachers	639,500	214,800	39,100	18.2%	175,700	81.8%	\$39,090
252011	Preschool Teachers, Except Special Education	470,600	158,700	29,600	18.7%	129,100	81.3%	\$32,500
252012	Kindergarten Teachers, Except Special Education	168,900	56,100	9,500	16.9%	46,600	83.1%	\$54,510
252020	Elementary and Middle School Teachers	2,115,100	558,100	116,000	20.8%	442,100	79.2%	\$58,060
252021	Elementary School Teachers, Exc. Special Educ.	1,436,300	378,700	78,400	20.7%	300,300	79.3%	\$57,730
252022	Middle School Teachers, Except Special and Career/Technical Education	664,200	175,500	36,700	20.9%	138,800	79.1%	\$58,760
252023	Career/Technical Education Teachers, Middle School	14,600	3,900	900	23.1%	3,000	76.9%	\$58,480
252030	Secondary School Teachers	1,097,400	303,200	56,200	18.5%	247,000	81.5%	\$60,270
252031	Secondary School Teachers, Except Special and Career/Technical Education	1,017,500	284,000	55,900	19.7%	228,100	80.3%	\$60,440
252032	Career/Technical Education Teachers, Secondary School	79,900	19,200	300	1.6%	18,900	98.4%	\$58,170
252050	Special Education Teachers	522,000	123,500	31,000	25.1%	92,500	74.9%	\$59,800
252051	Special Education Teachers, Preschool	27,800	7,100	2,300	32.4%	4,800	67.6%	\$58,210
252052	Special Education Teachers, Kindergarten and Elementary School	210,600	49,800	12,500	25.1%	37,300	74.9%	\$58,640
252053	Special Education Teachers, Middle School	98,500	23,000	5,500	23.9%	17,500	76.1%	\$60,300
252054	Special Education Teachers, Secondary School	141,900	33,100	7,800	23.6%	25,300	76.4%	\$62,180
252059	Special Education Teachers, All Other	43,300	10,500	2,900	27.6%	7,600	72.4%	\$57,670
253000	Other Teachers and Instructors	1,534,200	391,000	125,600	32.1%	265,400	67.9%	\$37,420
253011	Adult Basic and Secondary Education and Literacy Teachers and Instructors	83,000	20,100	5,500	27.4%	14,600	72.6%	\$54,060

253021	Self-Enrichment Education Teachers	402,200	119,200	53,500	44.9%	65,700	55.1%	\$42,350
253099	Teachers and Instructors, All Other	1,049,000	251,700	66,600	26.5%	185,100	73.5%	N/A
254000	Librarians, Curators, and Archivists	286,200	95,200	10,100	10.6%	85,100	89.4%	\$48,960
254010	Archivists, Curators, and Museum Technicians	33,400	11,800	2,100	17.8%	9,700	82.2%	\$51,750
254011	Archivists	7,400	2,600	400	15.4%	2,200	84.6%	\$53,880
254012	Curators	14,100	5,100	1,000	19.6%	4,100	80.4%	\$56,990
254013	Museum Technicians and Conservators	11,900	4,100	600	14.6%	3,500	85.4%	\$44,880
254021	Librarians	145,700	29,500	2,700	9.2%	26,800	90.8%	\$58,930
254031	Library Technicians	107,100	53,900	5,300	9.8%	48,600	90.2%	\$34,200
259000	Other Education, Training, and Library Occupations	1,630,300	424,700	100,300	23.6%	324,400	76.4%	\$31,710
259011	Audio-Visual and Multimedia Collections Specialists	10,800	1,800	800	44.4%	1,000	55.6%	\$48,220
259021	Farm and Home Management Advisors	11,900	2,200	1,200	54.5%	1,000	45.5%	\$51,820
259031	Instructional Coordinators	161,600	25,100	10,500	41.8%	14,600	58.2%	\$64,870
259041	Teacher Assistants	1,312,800	374,500	78,600	21.0%	295,900	79.0%	\$26,550
259099	Education, Training, & Library Workers, All Other	133,100	21,100	9,200	43.6%	11,900	56.4%	\$44,380
270000	Arts, Design, Entertainment, Sports, and Media Occupations	2,731,700	771,900	129,300	16.8%	642,600	83.2%	\$56,980
271000	Art and Design Workers	789,700	192,900	18,600	9.6%	174,300	90.4%	\$52,240
271010	Artists and Related Workers	195,900	42,000	6,600	15.7%	35,400	84.3%	\$77,580
271011	Art Directors	76,400	15,800	1,800	11.4%	14,000	88.6%	\$101,990
271012	Craft Artists	10,600	2,000	0	0.0%	2,000	100.0%	\$35,710
271013	Fine Artists, Including Painters, Sculptors, and Illustrators	27,100	5,700	800	14.0%	4,900	86.0%	\$54,170
271014	Multimedia Artists and Animators	68,300	15,900	3,900	24.5%	12,000	75.5%	\$70,300
271019	Artists and Related Workers, All Other	13,500	2,600	100	3.8%	2,500	96.2%	\$62,130
271020	Designers	593,900	150,900	12,000	8.0%	138,900	92.0%	\$47,370
271021	Commercial and Industrial Designers	39,200	9,900	800	8.1%	9,100	91.9%	\$69,820
271022	Fashion Designers	23,800	6,200	700	11.3%	5,500	88.7%	\$73,180
271023	Floral Designers	56,700	14,000	0	0.0%	14,000	100.0%	\$27,010
271024	Graphic Designers	265,200	65,800	3,600	5.5%	62,200	94.5%	\$51,640
271025	Interior Designers	61,100	16,200	2,200	13.6%	14,000	86.4%	\$55,510
271026	Merchandise Displayers and Window Trimmers	124,100	32,100	3,400	10.6%	28,700	89.4%	\$29,790
271027	Set and Exhibit Designers	14,200	4,100	900	22.0%	3,200	78.0%	\$54,920
271029	Designers, All Other	9,500	2,700	600	22.2%	2,100	77.8%	\$62,220
272000	Entertainers & Performers, Sports & Related Workers	827,700	298,700	46,000	15.4%	252,700	84.6%	\$58,380
272010	Actors, Producers, and Directors	209,800	84,500	17,700	20.9%	66,800	79.1%	\$85,850
272011	Actors	76,100	34,000	6,700	19.7%	27,300	80.3%	N/A
272012	Producers and Directors	133,800	50,500	11,100	22.0%	39,400	78.0%	\$89,670
272020	Athletes, Coaches, Umpires, and Related Workers	300,600	112,400	16,500	14.7%	95,900	85.3%	\$41,470
272021	Athletes and Sports Competitors	14,500	5,400	800	14.8%	4,600	85.2%	\$80,490
272022	Coaches and Scouts	265,400	99,400	14,800	14.9%	84,600	85.1%	\$40,050
272023	Umpires, Referees, and Other Sports Officials	20,700	7,600	900	11.8%	6,700	88.2%	\$33,990
272030	Dancers and Choreographers	21,100	7,500	1,000	13.3%	6,500	86.7%	\$42,410
272031	Dancers	13,600	4,800	600	12.5%	4,200	87.5%	N/A
272032	Choreographers	7,500	2,700	400	14.8%	2,300	85.2%	\$51,560
272040	Musicians, Singers, and Related Workers	264,000	82,700	8,600	10.4%	74,100	89.6%	N/A
272041	Music Directors and Composers	84,700	26,400	2,600	9.8%	23,800	90.2%	\$59,040
272042	Musicians and Singers	179,300	56,300	6,000	10.7%	50,300	89.3%	N/A

291069	Physicians and Surgeons, All Other	398,800	145,100	51,600	35.6%	93,500	64.4%	\$197,700
291071	Physician Assistants	123,200	50,000	28,800	57.6%	21,200	42.4%	\$99,270
291081	Podiatrists	11,000	3,300	1,400	42.4%	1,900	57.6%	\$136,180
291120	Therapists	813,800	311,200	157,900	50.7%	153,300	49.3%	\$76,220
291122	Occupational Therapists	145,100	52,600	30,400	57.8%	22,200	42.2%	\$81,690
291123	Physical Therapists	282,700	128,300	71,800	56.0%	56,500	44.0%	\$85,790
291124	Radiation Therapists	18,900	6,200	2,300	37.1%	3,900	62.9%	\$84,460
291125	Recreational Therapists	20,900	6,600	2,300	34.8%	4,300	65.2%	\$47,790
291126	Respiratory Therapists	135,500	43,300	14,900	34.4%	28,400	65.6%	\$59,640
291127	Speech-Language Pathologists	164,300	63,100	28,900	45.8%	34,200	54.2%	\$76,900
291128	Therapists, All Other*	16,000	3,000	1,600	53.3%	1,400	46.7%	\$49,740
291129	Therapists, All Other	30,500	8,300	5,900	71.1%	2,400	28.9%	\$59,210
291131	Veterinarians	85,200	19,000	7,000	36.8%	12,000	63.2%	\$99,000
291141	Registered Nurses	3,190,300	1,088,400	439,300	40.4%	649,100	59.6%	\$71,000
291151	Audiologists, Non R&D (SIC 822 only)	45,600	16,400	7,400	45.1%	9,000	54.9%	\$160,250
291161	Nurse Midwives	6,600	2,500	1,300	52.0%	1,200	48.0%	\$93,610
291171	Nurse Practitioners	171,700	74,700	44,800	60.0%	29,900	40.0%	\$101,260
291181	Audiologists	16,900	6,800	3,700	54.4%	3,100	45.6%	\$77,420
291199	Health Diagnosing & Treating Practitioners, Other	56,100	17,700	6,000	33.9%	11,700	66.1%	\$85,120
292000	Health Technologists and Technicians	3,416,100	1,040,400	471,500	45.3%	568,900	54.7%	\$45,850
292010	Clinical Laboratory Technologists and Technicians	380,300	130,500	52,100	39.9%	78,400	60.1%	\$51,810
292011	Medical and Clinical Laboratory Technologists	187,900	62,500	23,100	37.0%	39,400	63.0%	\$61,860
292012	Medical and Clinical Laboratory Technicians	192,400	68,100	29,100	42.7%	39,000	57.3%	\$41,420
292021	Dental Hygienists	237,900	70,300	37,400	53.2%	32,900	46.8%	\$72,720
292030	Diagnostic Related Technologists and Technicians	412,400	117,300	48,600	41.4%	68,700	58.6%	\$62,080
292031	Cardiovascular Technologists and Technicians	63,500	21,400	11,600	54.2%	9,800	45.8%	\$56,100
292032	Diagnostic Medical Sonographers	76,700	27,500	16,000	58.2%	11,500	41.8%	\$70,880
292033	Nuclear Medicine Technologists	21,000	4,200	300	7.1%	3,900	92.9%	\$74,990
292034	Radiologic Technologists	214,200	54,400	17,200	31.6%	37,200	68.4%	\$58,520
292035	Magnetic Resonance Imaging Technologists	37,100	9,800	3,500	35.7%	6,300	64.3%	\$68,340
292041	Emergency Medical Technicians and Paramedics	299,600	98,000	58,500	59.7%	39,500	40.3%	\$35,430
292050	Health Diagnosing and Treating Practitioner Support Tech.	794,700	154,500	83,900	54.3%	70,600	45.7%	\$34,710
292051	Dietetic Technicians	33,200	6,800	3,900	57.4%	2,900	42.6%	\$29,170
292052	Pharmacy Technicians	407,200	71,600	34,700	48.5%	36,900	51.5%	\$31,680
292053	Psychiatric Technicians	71,400	10,200	3,500	34.3%	6,700	65.7%	\$36,280
292054	Respiratory Therapy Technicians	8,700	1,100	0	0.0%	1,100	100.0%	\$49,720
292055	Surgical Technologists	114,500	24,600	14,700	59.8%	9,900	40.2%	\$45,940
292056	Veterinary Technologists and Technicians	113,600	27,400	17,900	65.3%	9,500	34.7%	\$33,280
292057	Ophthalmic Medical Technicians	46,100	12,800	9,100	71.1%	3,700	28.9%	\$36,690
292061	Licensed Practical and Licensed Vocational Nurses	837,200	322,200	117,300	36.4%	204,900	63.6%	\$44,030
292071	Medical Records and Health Information Technicians	217,600	71,200	29,000	40.7%	42,200	59.3%	\$40,430
292081	Opticians, Dispensing	93,000	37,900	17,900	47.2%	20,000	52.8%	\$36,820
292090	Miscellaneous Health Technologists and Technicians	143,500	38,600	27,100	70.2%	11,500	29.8%	\$47,560
292091	Orthotists and Prosthetists	10,100	2,700	1,900	70.4%	800	29.6%	\$69,960
292092	Hearing Aid Specialists	7,500	2,200	1,600	72.7%	600	27.3%	\$52,850
292099	Health Technologists and Technicians, All Other	125,900	33,800	23,700	70.1%	10,100	29.9%	\$45,730

371012	First-Line Supervisors/Mngrs of Landscap., Lawn Serv., & Groundskeep. Wrks.	187,400	39,000	9,300	23.8%	29,700	76.2%	\$46,900
372000	Building Cleaning and Pest Control Workers	4,157,200	1,087,300	248,800	22.9%	838,500	77.1%	\$25,440
372010	Building Cleaning Workers	4,084,000	1,068,700	248,800	23.3%	819,900	76.7%	\$25,240
372011	Janitors and Cleaners, Except Maids and Housekeeping	2,496,900	605,200	136,400	22.5%	468,800	77.5%	\$26,180
372012	Maids and Housekeeping Cleaners	1,569,400	459,400	111,700	24.3%	347,700	75.7%	\$22,990
372019	Building Cleaning Workers, All Other	17,700	4,200	900	21.4%	3,300	78.6%	\$30,200
372021	Pest Control Workers	73,200	18,600	0	0.0%	18,600	100.0%	\$34,080
373000	Grounds Maintenance Workers	1,359,600	308,800	77,600	25.1%	231,200	74.9%	\$28,090
373011	Landscaping and Groundskeeping Workers	1,239,600	282,300	71,700	25.4%	210,600	74.6%	\$27,460
373012	Pesticide Handlers Sprayers & Applicators, Vegetation	37,800	7,900	1,300	16.5%	6,600	83.5%	\$34,570
373013	Tree Trimmers and Pruners	56,200	12,600	3,000	23.8%	9,600	76.2%	\$36,030
373019	Grounds Maintenance Workers, All Other	26,100	6,000	1,600	26.7%	4,400	73.3%	\$33,340
390000	Personal Care and Service Occupations	6,798,200	2,065,800	794,200	38.4%	1,271,600	61.6%	\$25,650
391000	Supervisors, Personal Care and Service Workers	318,700	88,100	28,200	32.0%	59,900	68.0%	\$39,870
391010	First-Line Supervisors/Managers of Gaming Workers	34,900	11,700	200	1.7%	11,500	98.3%	\$46,940
391011	Gaming Supervisors	28,000	9,400	200	2.1%	9,200	97.9%	\$50,130
391012	Slot Supervisors	6,900	2,400	0	0.0%	2,400	100.0%	\$37,550
391021	First-Line Supervisors of Personal Service Workers	283,800	76,400	28,000	36.6%	48,400	63.4%	\$38,670
392000	Animal Care and Service Workers	267,300	81,300	25,700	31.6%	55,600	68.4%	\$24,260
392011	Animal Trainers	40,900	17,400	4,100	23.6%	13,300	76.4%	\$33,600
392021	Nonfarm Animal Caretakers	226,400	63,800	21,600	33.9%	42,200	66.1%	\$23,630
393000	Entertainment Attendants and Related Workers	576,400	271,400	33,800	12.5%	237,600	87.5%	\$22,140
393010	Gaming Services Workers	94,200	26,000	1,100	4.2%	24,900	95.8%	\$22,730
393011	Gaming Dealers	68,900	18,800	500	2.7%	18,300	97.3%	\$21,810
393012	Gaming and Sports Book Writers and Runners	11,900	3,500	400	11.4%	3,100	88.6%	\$26,170
393019	Gaming Service Workers, All Other	13,400	3,700	200	5.4%	3,500	94.6%	\$26,380
393021	Motion Picture Projectionists	5,500	2,700	0	0.0%	2,700	100.0%	\$24,540
393031	Ushers, Lobby Attendants, and Ticket Takers	120,000	77,900	6,100	7.8%	71,800	92.2%	\$21,060
393090	Miscellaneous Entertainment Attendants and Related	356,800	164,900	26,600	16.1%	138,300	83.9%	\$22,260
393091	Amusement and Recreation Attendants	310,900	143,200	22,300	15.6%	120,900	84.4%	\$21,360
393092	Costume Attendants	6,700	3,100	500	16.1%	2,600	83.9%	\$52,870
393093	Locker Room, Coatroom, & Dressing Room Attendants	19,400	8,600	800	9.3%	7,800	90.7%	\$23,990
393099	Entertainment Attendants & Related Workers, Other	19,800	10,000	2,900	29.0%	7,100	71.0%	\$24,110
394000	Funeral Service Workers	72,400	17,700	2,100	11.9%	15,600	88.1%	\$37,460
394011	Embalmers	3,600	800	0	0.0%	800	100.0%	\$41,490
394021	Funeral Attendants	35,700	7,900	0	0.0%	7,900	100.0%	\$25,840
394031	Morticians, Undertakers, and Funeral Directors	33,200	8,900	2,000	22.5%	6,900	77.5%	\$52,990
395000	Personal Appearance Workers	938,200	265,900	85,800	32.3%	180,100	67.7%	\$28,420
395010	Barbers and Cosmetologists	720,700	229,100	64,300	28.1%	164,800	71.9%	\$28,790
395011	Barbers	65,100	17,000	5,900	34.7%	11,100	65.3%	\$29,140
395012	Hairdressers, Hairstylists, and Cosmetologists	655,600	212,100	58,400	27.5%	153,700	72.5%	\$28,770
395090	Miscellaneous Personal Appearance Workers	217,400	36,800	21,500	58.4%	15,300	41.6%	\$27,500
395091	Makeup Artists, Theatrical and Performance	4,300	1,000	700	70.0%	300	30.0%	\$66,560
395092	Manicurists and Pedicurists	125,300	20,600	11,700	56.8%	8,900	43.2%	\$23,630
395093	Shampooers	26,200	4,300	2,400	55.8%	1,900	44.2%	\$20,350
395094	Skincare Specialists	61,600	10,900	6,600	60.6%	4,300	39.4%	\$35,300

430000	Office and Administrative Support Occupations	23,232,600	5,657,100	1,039,900	18.4%	4,617,200	81.6%	\$36,330
431000	Supervisors, Office & Admin. Support Workers	1,587,300	342,700	121,200	35.4%	221,500	64.6%	\$56,170
431011	First-Line Supervisors/Managers of Office and Admin. Support Worker	1,587,300	342,700	121,200	35.4%	221,500	64.6%	\$56,170
432000	Communications Equipment Operators	86,400	17,300	200	1.2%	17,100	98.8%	\$30,250
432011	Switchboard Operators, Including Answering Service	75,400	13,300	0	0.0%	13,300	100.0%	\$28,990
432021	Telephone Operators	7,500	3,200	0	0.0%	3,200	100.0%	\$40,820
432099	Communications Equipment Operators, All Other	3,500	800	200	25.0%	600	75.0%	\$41,990
433000	Financial Clerks	3,290,700	723,700	70,500	9.7%	653,200	90.3%	\$36,680
433011	Bill and Account Collectors	330,900	85,600	0	0.0%	85,600	100.0%	\$36,600
433021	Billing and Posting Clerks and Machine Operators	581,100	174,100	66,500	38.2%	107,600	61.8%	\$36,300
433031	Bookkeeping, Accounting, and Auditing Clerks	1,611,500	172,600	0	0.0%	172,600	100.0%	\$38,990
433041	Gaming Cage Workers	11,900	2,700	500	18.5%	2,200	81.5%	\$27,780
433051	Payroll and Timekeeping Clerks	166,900	46,300	0	0.0%	46,300	100.0%	\$42,130
433061	Procurement Clerks	66,300	25,100	0	0.0%	25,100	100.0%	\$41,010
433071	Tellers	480,500	203,600	0	0.0%	203,600	100.0%	\$27,260
433099	Financial Clerks, All Other	41,600	13,700	3,400	24.8%	10,300	75.2%	\$42,270
434000	Information and Record Clerks	6,033,100	1,798,600	425,500	23.7%	1,373,100	76.3%	\$33,610
434011	Brokerage Clerks	62,400	19,100	5,200	27.2%	13,900	72.8%	\$51,640
434021	Correspondence Clerks	7,200	2,300	0	0.0%	2,300	100.0%	\$36,340
434031	Court, Municipal, and License Clerks	147,100	14,800	6,300	42.6%	8,500	57.4%	\$38,230
434041	Credit Authorizers, Checkers, and Clerks	43,300	3,800	0	0.0%	3,800	100.0%	\$37,920
434051	Customer Service Representatives	2,834,800	888,700	252,900	28.5%	635,800	71.5%	\$34,560
434061	Eligibility Interviewers, Government Programs	132,000	16,300	2,100	12.9%	14,200	87.1%	\$43,040
434071	File Clerks	150,100	32,000	0	0.0%	32,000	100.0%	\$29,900
434081	Hotel, Motel, and Resort Desk Clerks	265,100	147,700	21,900	14.8%	125,800	85.2%	\$22,610
434111	Interviewers, Except Eligibility and Loan	208,300	55,500	10,400	18.7%	45,100	81.3%	\$32,930
434121	Library Assistants, Clerical	114,700	39,600	5,900	14.9%	33,700	85.1%	\$26,580
434131	Loan Interviewers and Clerks	232,300	51,300	18,400	35.9%	32,900	64.1%	\$39,210
434141	New Accounts Clerks	48,600	12,900	0	0.0%	12,900	100.0%	\$35,820
434151	Order Clerks	194,300	53,100	0	0.0%	53,100	100.0%	\$34,080
434161	Human Resources Assistants, Ex Payroll and Timekeeping	134,800	15,900	0	0.0%	15,900	100.0%	\$39,180
434171	Receptionists and Information Clerks	1,126,300	375,000	97,800	26.1%	277,200	73.9%	\$28,430
434181	Reservation and Transportation Ticket Agents and Travel Clerks	138,800	17,700	0	0.0%	17,700	100.0%	\$36,780
434199	Information and Record Clerks, All Other	193,000	53,000	4,600	8.7%	48,400	91.3%	\$38,770
435000	Material Recording, Scheduling, Dispatching, and Dist. Wkrs.	3,877,500	1,162,600	118,300	10.2%	1,044,300	89.8%	\$33,610
435011	Cargo and Freight Agents	84,300	31,300	5,600	17.9%	25,700	82.1%	\$44,470
435021	Couriers and Messengers	97,700	16,500	4,800	29.1%	11,700	70.9%	\$29,130
435030	Dispatchers	307,300	84,100	8,800	10.5%	75,300	89.5%	\$40,140
435031	Police, Fire, and Ambulance Dispatchers	99,000	25,500	0	0.0%	25,500	100.0%	\$40,000
435032	Dispatchers, Except Police, Fire, and Ambulance	208,200	58,600	8,800	15.0%	49,800	85.0%	\$40,210
435041	Meter Readers, Utilities	30,600	6,700	0	0.0%	6,700	100.0%	\$40,900
435050	Postal Service Workers	348,600	79,400	0	0.0%	79,400	100.0%	\$50,700
435051	Postal Service Clerks	51,300	8,400	0	0.0%	8,400	100.0%	\$49,090
435052	Postal Service Mail Carriers	219,400	57,400	0	0.0%	57,400	100.0%	\$51,130
435053	Postal Service Mail Sorters, Processors, and Processing Machine Op.	78,000	13,600	0	0.0%	13,600	100.0%	\$50,650
435061	Production, Planning, and Expediting Clerks	310,900	88,900	6,300	7.1%	82,600	92.9%	\$48,210

435071	Shipping, Receiving, and Traffic Clerks	655,700	145,500	0	0.0%	145,500	100.0%	\$32,350
435081	Stock Clerks and Order Fillers	1,971,100	689,000	92,900	13.5%	596,100	86.5%	\$25,940
435111	Weighers, Measurers, Checkers, and Samplers, Recordkeep.	71,200	21,100	0	0.0%	21,100	100.0%	\$30,980
436000	Secretaries and Administrative Assistants	4,095,600	591,500	172,200	29.1%	419,300	70.9%	\$39,360
436011	Executive Secretaries and Executive Administrative Assistants	732,000	81,900	0	0.0%	81,900	100.0%	\$55,460
436012	Legal Secretaries	206,700	22,700	0	0.0%	22,700	100.0%	\$46,470
436013	Medical Secretaries	635,800	163,800	108,200	66.1%	55,600	33.9%	\$34,330
436014	Secretaries, Except Legal, Medical, and Executive	2,521,100	323,100	64,100	19.8%	259,000	80.2%	\$35,200
439000	Other Office and Administrative Support Workers	4,262,000	1,020,600	131,900	12.9%	888,700	87.1%	\$32,800
439011	Computer Operators	49,500	4,600	0	0.0%	4,600	100.0%	\$42,140
439020	Data Entry and Information Processing Workers	285,400	30,700	0	0.0%	30,700	100.0%	\$32,840
439021	Data Entry Keyers	208,900	27,600	0	0.0%	27,600	100.0%	\$30,810
439022	Word Processors and Typists	76,500	3,100	0	0.0%	3,100	100.0%	\$38,710
439031	Desktop Publishers	11,700	4,000	0	0.0%	4,000	100.0%	\$43,900
439041	Insurance Claims and Policy Processing Clerks	303,100	89,200	17,700	19.8%	71,500	80.2%	\$39,560
439051	Mail Clerks and Mail Machine Operators, Except Postal	85,100	21,400	0	0.0%	21,400	100.0%	\$29,930
439061	Office Clerks, General	3,158,200	756,200	95,800	12.7%	660,400	87.3%	\$31,890
439071	Office Machine Operators, Except Computer	58,000	15,800	0	0.0%	15,800	100.0%	\$30,980
439081	Proofreaders and Copy Markers	13,300	2,600	0	0.0%	2,600	100.0%	\$37,690
439111	Statistical Assistants	14,800	6,700	0	0.0%	6,700	100.0%	\$44,220
439199	Office and Administrative Support Workers, Other	282,900	89,500	18,400	20.6%	71,100	79.4%	\$34,730
450000	Farming, Fishing, and Forestry Occupations	914,900	253,100	3,700	1.5%	249,400	98.5%	\$26,360
451000	Supervisors, Farming, Fishing, & Forestry Workers	43,300	11,500	0	0.0%	11,500	100.0%	\$48,290
451011	First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	43,300	11,500	0	0.0%	11,500	100.0%	\$48,290
452000	Agricultural Workers	777,100	218,000	3,100	1.4%	214,900	98.6%	\$24,090
452011	Agricultural Inspectors	14,100	3,600	0	0.0%	3,600	100.0%	\$43,810
452021	Animal Breeders	6,900	1,900	0	0.0%	1,900	100.0%	\$44,650
452041	Graders and Sorters, Agricultural Products	48,900	8,500	0	0.0%	8,500	100.0%	\$23,260
452090	Miscellaneous Agricultural Workers	707,300	204,100	3,100	1.5%	201,000	98.5%	\$23,260
452091	Agricultural Equipment Operators	60,900	18,500	3,100	16.8%	15,400	83.2%	\$29,380
452092	Farmworkers & Laborers, Crop, Nursery & Greenhouse	427,300	125,200	0	0.0%	125,200	100.0%	\$22,130
452093	Farmworkers, Farm, Ranch, and Aquacultural Animals	209,100	57,500	0	0.0%	57,500	100.0%	\$26,160
452099	Agricultural Workers, All Other	10,000	2,800	0	0.0%	2,800	100.0%	\$31,850
453000	Fishing and Hunting Workers	28,200	7,000	0	0.0%	7,000	100.0%	\$30,370
454000	Forest, Conservation, and Logging Workers	66,300	16,600	600	3.6%	16,000	96.4%	\$36,470
454011	Forest and Conservation Workers	14,600	3,900	600	15.4%	3,300	84.6%	\$29,860
454020	Logging Workers	51,700	12,700	0	0.0%	12,700	100.0%	\$37,640
454021	Fallers	6,800	2,000	0	0.0%	2,000	100.0%	\$41,750
454022	Logging Equipment Operators	37,100	8,800	0	0.0%	8,800	100.0%	\$36,930
454023	Log Graders and Scalers	3,700	900	0	0.0%	900	100.0%	\$37,420
454029	Logging Workers, All Other	4,100	1,100	0	0.0%	1,100	100.0%	\$36,210
470000	Construction and Extraction Occupations	7,160,700	1,682,200	660,600	39.3%	1,021,600	60.7%	\$47,580
471000	Supervisors, Construction and Extraction Workers	636,100	103,600	57,700	55.7%	45,900	44.3%	\$66,820
471011	First-Line Supervisors of Construction Trades and Extraction Workers	636,100	103,600	57,700	55.7%	45,900	44.3%	\$66,820
472000	Construction Trades Workers	5,509,700	1,290,400	514,300	39.9%	776,100	60.1%	\$46,290
472011	Boilermakers	19,000	4,200	1,500	35.7%	2,700	64.3%	\$60,660
472020	Brickmasons, Blockmasons, and Stonemasons	109,700	24,400	16,600	68.0%	7,800	32.0%	\$50,200

Appendix 3

Psychology Faculty FTE, Spring 2017

Tenured	FTE
J. DiClementi	1.00
M. Drouin	1.00
C. Hill	1.00
J. Jackson	1.00
D. Kaiser	1.00
C. Lawton	1.00
B. Lundy	1.00
D. Miller	1.00
J. Ross	1.00
L. R. Vartanian	1.00
R. Yoder	1.00
D. Young	0.50
Continuing Lecturer	
M. Bendele	1.0
Visiting Assistant Professor	
K. Malanson	0.75
Limited Term Lecturer	
T. Blakemore	0.50
S. Clevenger	.25
N. DeYoung	.25
A. Parkerson	0.25
V. Rebman	0.25
M. Scherbinski	0.50
Total	15.25

**Appendix 4: IPFW Psychology Transfer Single Articulation Pathways for Vincennes
University and Ivy Tech Community College**

Vincennes AA transfer to IPFW PSY BA

Below are the list of courses student should plan to take during their AA degree to be able to complete the psychology degree in 2 years after transferring to IPFW. IPFW students have to fulfill requirements in General Education (Gen Ed), the College of Arts and Sciences (A&S), and the Psychology Major. Free electives can be used for the remaining 120 credits for the BA degree. Note that some courses may fulfill requirements in both Gen Ed and either A&S or the Psychology major.

Vincennes Courses	IPFW Courses	Requirement(s) Filled
Written Communication: Both courses required		
ENGL 101- English Composition 1	ENG W131	Gen Ed A1
ENGL 102- English Composition 2	ENG W233	Gen Ed A1 AND A&S Second Writing Course
Speaking and Listening: 3 credits		
COMM 143- Speech	COM 11400	Gen Ed A2 and A&S Speech course
Quantitative Reasoning: 3-6 credits (One Math required for Gen Ed AND one additional Math OR Science required for A&S)		
MATH 103- Mathematics and Its Applications	MA 14000	Gen Ed A3 or A&S additional Math or Science course
MATH 102- College Algebra	MA 15300	Gen Ed A3 or A&S additional Math or Science course
MATH 118- Calculus w/ Analytic Geometry 1	MA 16500	Gen Ed A3 or A&S additional Math or Science course
Scientific Ways of Knowing: 3-7 credits (One course with a lab required) (One Science required for Gen Ed AND one additional Math OR Science required for A&S)		
GEOS 210- General Astronomy	AST A100	Gen Ed B4 OR A&S additional Math or Science course
BIOL 101- Introduction to Biology (with lab)	BIOL 10000	Gen Ed B4 OR A&S additional Math or Science course
BIOL 105- Biology 1 (with lab BIOL 105L)	BIOL 11700	A&S additional Math or Science course and Lab requirement
BIOL 106- Biology 2 (with lab BIOL 106L)	BIOL 11900	A&S additional Math or Science course and Lab requirement
CHEM 100- Elementary Chemistry (with lab CHEM 100L)	CHM 11100	Gen Ed B4 OR A&S additional Math or Science course and Lab Requirement
CHEM 105- Chemistry 1 (with lab CHEM 105L)	CHM 11500	Gen Ed B4 OR A&S additional Math or Science course and Lab Requirement
CHEM 106- Chemistry 2 (with lab CHEM 106L)	CHM 11600	A&S additional Math or Science course and Lab requirement
GEOS 100- Earth Science	GEOG G107	Gen Ed B4 OR A&S additional Math or Science course
GEOS 115- Physical Geology (with lab)	GEOL G100	Gen Ed B4 OR A&S additional Math or Science course
Arts and Sciences- Science Lab: 1 credit (If lab not included in above science course)		
BIOL 101L- Introduction to Biology Lab	BIOL 10001	A&S Lab Requirement
GEOS L115- Physical Geology Lab	GEOL L100	A&S Lab Requirement

Social & Behavioral Ways of Knowing: 6 credits (3 credits in subject other than psychology)		
JOUR 216- Mass Communication	COM 25000	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
ECON 100- Elements of Economics	ECON E200	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
ENGL 249- Elements of General Linguistics	LING L 103	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 201- Introduction to Political Science	POLS Y100	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 111- American National Govt.	POLS Y103	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 211- World Politics and International Relations	POLS Y109	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
PSYC 142- General Psychology	PSY 12000	Gen Ed B5 AND Psychology major
PSYC- 253- Introduction to Social Psychology	PSY 24000	Gen Ed B5 AND Psychology major
PSYCH 249- Abnormal Psychology	PSY 35000	Gen Ed B5 AND Psychology major
PSYC 201- Developmental Psychology	PSY 36900	Gen Ed B5 AND Psychology major
SOCL 151- Principles of Sociology	SOC S161	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
SOCI 252- Social Problems	SOC S163	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
Humanistic and Artistic Ways of Knowing: 6-9 credits (One Gen Ed, One A&S Humanities, One Western Tradition)		
LITR 220- Introduction to World Literature 1	ENG L101	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
LITR 221- World Literature 2	ENG L102	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
LITR 100- Introduction to Literature	ENG L202	Gen Ed B6 OR A&S Additional Humanities Course
LITR 222- American Literature 1	ENG L250	Gen Ed B6 OR A&S Additional Humanities Course
LITR 223- American Literature 2	ENG L251	Gen Ed B6 OR A&S Additional Humanities Course
ARTT 110- Art Appreciation	FINA H101	Gen Ed B6 OR A&S Additional Humanities Course
ARTT 130- Art History 1	FINA H111	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
ARTT 131- Art History 2	FINA H112	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition

Vincennes AA transfer to IPFW PSY BA

HIST 139- American History 1	HIST H105	Gen Ed B6 OR A&S Additional Humanities Course
HIST 140- American History 2	HIST H106	Gen Ed B6 OR A&S Additional Humanities Course
MUSI 218- Music Appreciation	MUS Z101	Gen Ed B6 OR A&S Additional Humanities Course
PHIL 111- Introduction to Philosophy	PHIL 11000	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
PHIL 212- Introduction to Ethics	PHIL 11100	Gen Ed B6 OR A&S Additional Humanities Course
THEA 100- Theatre Appreciation	THTR 20100	Gen Ed B6 OR A&S Additional Humanities Course
Interdisciplinary or Creative Ways of Knowing: 3 credits		
ENGL 202- Creative Writing	ENG W103	Gen Ed B7
ARTT 116- Drawing 1	FINA N108	Gen Ed B7
THEA 146 Fundamentals of Acting	THTR 13400	Gen Ed B7
MGMT 100- Introduction to Business	BUS W100	Gen Ed B7
FREN 101- French Level 1	FREN F111	Gen Ed B7 AND A&S Language
FREN 102- French Level 2	FREN F112	Gen Ed B7 AND A&S Language
PSYC 240- Human Sexuality	PSY 44400	Gen Ed B7 and Psychology Major
SPAN 101- Spanish Level 1	SPAN S111	Gen Ed B7 AND A&S Language
SPAN 102- Spanish Level 2	SPAN S112	Gen Ed B7 AND A&S Language
A&S Language Requirement: Strongly encouraged to complete Level 1 and 2 of preferred language at Vincennes (4 semesters required for major)		
FREN 101- French Level 1	FREN F111	Gen Ed B7 AND A&S Language
FREN 102- French Level 2	FREN F112	Gen Ed B7 AND A&S Language
FREN 201- French Level 3	FREN F203	Gen Ed B7 AND A&S Language
FREN 202- French Level 4	FREN F204	Gen Ed B7 AND A&S Language
SPAN 101- Spanish Level 1	SPAN S111	Gen Ed B7 AND A&S Language
SPAN 102- Spanish Level 2	SPAN S112	Gen Ed B7 AND A&S Language
SPAN 201- Spanish Level 3	SPAN S203	Gen Ed B7 AND A&S Language
SPAN 202- Spanish Level 4	SPAN S204	Gen Ed B7 AND A&S Language
Psychology Major courses: 15 credits suggested		
PSYC 142- General Psychology	PSY 12000	Gen Ed B5 AND Psychology Major
PSYC- 253- Intro to Social Psychology	PSY 24000	Gen Ed B5 AND Psychology Major
PSYCH 249- Abnormal Psychology	PSY 35000	Gen Ed B5 AND Psychology Major
PSYC 201- Developmental Psychology	PSY 36900	Gen Ed B5 AND Psychology Major
PSYC 240- Human Sexuality	PSY 44400	Gen Ed B7 and Psychology Major

IVY Tech AA transfer to IPFW PSY BA

Below are the list of courses student should plan to take during their AA degree to be able to complete the psychology degree in 2 years after transferring to IPFW. IPFW students have to fulfill requirements in General Education (Gen Ed), the College of Arts and Sciences (A&S), and the Psychology Major. Free electives can be used for the remaining 120 credits for the BA degree. Note that some courses may fulfill requirements in both Gen Ed and either A&S or the Psychology major.

ITCC Courses	IPFW Courses	Requirement(s) Filled
Written Communication: 6 credits Both courses required		
ENGL 111- English Composition	ENG W131	Gen Ed A1
ENGL 112- Exposition and Persuasion	ENG W233	Gen Ed A1 AND A&S Second Writing Course
Speaking and Listening: 3 credits		
COMM 101- Fundamentals of Public Speaking	COM 11400	Gen Ed A2 and A&S Speech course
Quantitative Reasoning: 3-6 credits (One Math required for Gen Ed AND one additional Math OR Science required for A&S)		
MATH 118- Concepts in Mathematics	MA 14000	Gen Ed A3 or A&S additional Math or Science Course
MATH 136- College Algebra	MA 15300	Gen Ed A3 or A&S additional Math or Science Course
MATH 221- Calculus 1	MA 16500	Gen Ed A3 or A&S additional Math or Science Course
Scientific Ways of Knowing: 3-7 credits; one course with a lab required (One Science required for Gen Ed AND one additional Math OR Science required for A&S)		
ASTR 101- Solar System Astronomy	AST A100	Gen Ed B4 OR A&S additional Math or Science Course
BIOL 101- Introductory Biology	BIOL 10000	Gen Ed B4 OR A&S additional Math or Science Course
BIOL 105- Biology 1 (with lab)	BIOL 11700	A&S additional Math or Science Course and Lab requirement
BIOL 107- Biology 2 (with lab)	BIOL 11900	A&S additional Math or Science Course and Lab requirement
CHEM 101- Introductory Chemistry (with lab)	CHM 11100	Gen Ed B4 OR A&S additional Math or Science Course AND Lab requirement
CHEM 105- Chemistry 1 (with lab)	CHM 11500	Gen Ed B4 OR A&S additional Math or Science Course AND Lab requirement
CHEM 106- Chemistry 2 (with lab)	CHM 11600	A&S additional Math or Science Course and Lab requirement
SCIN 100- Earth Science	GEOG G107	Gen Ed B4 OR A&S additional Math or Science Course
GEOL 105- Physical Geology	GEOL G100	Gen Ed B4 OR A&S additional Math or Science Course

Social & Behavioral Ways of Knowing: 6 credits (3 credits in subject other than psychology)		
COMM 201- Introduction to Mass Communication	COM 25000	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
ECON 101- Fundamentals of Economics	ECON E200	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
ENGL 249- Linguistics	LING L 103	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 201- Introduction to Political Science	POLS Y100	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 101- Into to American Govt and Politics	POLS Y103	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
POLS 211- Introduction to World Politics	POLS Y109	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
PSYC 101- Introduction to Psychology	PSY 12000	Gen Ed B5 AND Psychology Major
PSYC 253- Introduction to Social Psychology	PSY 24000	Gen Ed B5 AND Psychology Major
PSYC 205- Abnormal Psychology	PSY 35000	Gen Ed B5 AND Psychology Major
PSYC 201- Lifespan Development	PSY 36900	Gen Ed B5 AND Psychology Major
SOCI 111- Introduction to Sociology	SOC S161	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
SOCI 252- Social Problems	SOC S163	Gen Ed B5 OR A&S additional Social & Behavioral Science Course
Humanistic and Artistic Ways of Knowing: 6-9 credits (One Gen Ed, One A&S Humanities, One Western Tradition)		
ENGL 220- World Literature 1	ENG L101	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
ENGL 221- World Literature 2	ENG L102	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
ENGL 206- Introduction to Literature	ENG L202	Gen Ed B6 OR A&S Additional Humanities Course
ENGL 222- American Literature to 1865	ENG L250	Gen Ed B6 OR A&S Additional Humanities Course
ENGL 223- American Literature after 1865	ENG L251	Gen Ed B6 OR A&S Additional Humanities Course
ARTH 110- Art Appreciation	FINA H101	Gen Ed B6 OR A&S Additional Humanities Course
ARTH 101- Survey of Art and Culture 1	FINA H111	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
ARTH 102- Survey of Art and Culture 2	FINA H112	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition

IVY Tech AA transfer to IPFW PSY BA

HIST 101- Survey of American History 1	HIST H105	Gen Ed B6 OR A&S Additional Humanities Course
HIST 102- Survey of American History 2	HIST H106	Gen Ed B6 OR A&S Additional Humanities Course
HUMA-118 Music Appreciation	MUS Z101	Gen Ed B6 OR A&S Additional Humanities Course
PHIL 101- Introduction to Philosophy	PHIL 11000	Gen Ed B6 AND Western Tradition OR A&S Additional Humanities Course AND Western Tradition
PHIL 102- Introduction to Ethics	PHIL 11100	Gen Ed B6 OR A&S Additional Humanities Course
HUMA 100- Theatre Appreciation	THTR 20100	Gen Ed B6 OR A&S Additional Humanities Course
Interdisciplinary or Creative Ways of Knowing: 3 credits		
ENGL 202- Creative Writing	ENG W103	Gen Ed B7
ARTS 100- Life and Object Drawing 1	FINA N108	Gen Ed B7
ARTS 262- Acting	THTR 13400	Gen Ed B7
BUSN 100- Introduction to Business	BUS W100	Gen Ed B7
FREN 101- French Level 1	FREN F111	Gen Ed B7 AND A&S Language
FREN 102- French Level 2	FREN F112	Gen Ed B7 AND A&S Language
PSYC 240- Human Sexuality	PSY 44400	Gen Ed B7 and Psychology Major
SPAN 101- Spanish Level 1	SPAN S111	Gen Ed B7 AND A&S Language
SPAN 102- Spanish Level 2	SPAN S112	Gen Ed B7 AND A&S Language
A&S Language Requirement: Strongly encouraged to take Level 1 and 2 of preferred language at Ivy Tech		
FREN 101- French Level 1	FREN F111	Gen Ed B7 AND A&S Language
FREN 102- French Level 2	FREN F112	Gen Ed B7 AND A&S Language
FREN 201- French Level 3	FREN F203	Gen Ed B7 AND A&S Language
FREN 202- French Level 4	FREN F204	Gen Ed B7 AND A&S Language
SPAN 101- Spanish Level 1	SPAN S111	Gen Ed B7 AND A&S Language
SPAN 102- Spanish Level 2	SPAN S112	Gen Ed B7 AND A&S Language
SPAN 201- Spanish Level 3	SPAN S203	Gen Ed B7 AND A&S Language
SPAN 202- Spanish Level 4	SPAN S204	Gen Ed B7 AND A&S Language
Psychology Major courses: 15 credits suggested		
PSYC 101- Introduction to Psychology	PSY 12000	Gen Ed B5 AND Psychology Major
PSYC 253- Intro to Social Psychology	PSY 24000	Gen Ed B5 AND Psychology Major
PSYC 205- Abnormal Psychology	PSY 35000	Gen Ed B5 AND Psychology Major
PSYC 201- Lifespan Development	PSY 36900	Gen Ed B5 AND Psychology Major
PSYC 240- Human Sexuality	PSY 44400	Gen Ed B7 and Psychology Major

Appendix 5: Psychology B.S. Requirements & 4-year Plan

PSYCHOLOGY CORE CLASSES (42 credits)

- 3 PSY 12000 Elementary Psychology
- 3 PSY 14000 Critical Foundations for Psychology
- 3 PSY 20100 Introduction to Statistics in Psychology
- 3 PSY 20300 Introduction to Research Methods in Psychology
- 3 PSY 31400 Introduction to Learning
- 3 PSY 32900 Psychobiology
- 3 PSY 41600 Cognitive Psychology
- 9 Credits in PSY Distribution (Select 3 of the 4 following course options):
 - PSY 23500 Child Development or PSY 36900 Development Across the Lifespan
 - PSY 24000 Introduction to Social Psychology
 - PSY 35000 Abnormal Psychology
 - PSY 42000 Intro to Personality Theory
- 6 Credits in PSY 20000+ (at least 3 credits at IPFW):
 - PSY _____ PSY _____
- 3 PSY Applied (Select 1 of the following course options):
 - PSY 39200 Peer Leadership & Mentoring
 - PSY 43100 Advanced Psychobiology
 - PSY 44100 Advanced Research in Personality and Social Psychology
 - PSY 49000 Practicum in Psychotherapy
 - PSY 49600 (supervised research assistantship)
 - PSY 49800 Senior Research
 - PSY 49900 Honors Thesis in Psychology
- 3 PSY Capstone (Select 1 of the following course options not used in PSY Research):
 - PSY 39200 Peer Leadership & Mentoring
 - PSY 43100 Advanced Psychobiology
 - PSY 44100 Advanced Research in Personality and Social Psychology
 - PSY 49000 Practicum in Psychotherapy
 - PSY 49900 Honors Thesis in Psychology
 - PSY 54000 History of Psychology
- Psychology Exit Exam (PSY Exam must be taken by deadline in last semester of classes)
- Psychology Career Services Requirement
 - Completion of the FOCUS career guidance tool and a Career Services session to review the results (during PSY 14000)
 - Completion of a Career Services session to review resume or curriculum vitae (during junior year)
 - Completion of a Career Services session focused on cover letter review, personal statement review, or mock interview (during senior year)

SUPPORTING B.S. COURSES

- 3 MA153 (may be used for Gen Ed A3)
- 0-1 Lab Requirement: 0-1 credits (BIOL 10001, CHM 11100, 11500, 12000, GEOL G103, G104, L100 or PHYS 11501, 12700, 13100, 13101, 15200, 21800 or 22000)
- 3 Category 1-Methodological: Select 1 of the following; may not be used to fulfill another requirement:
 - MA 22900 - Calculus for the Managerial, Social, and Biological Sciences I
 - STAT 34000 - Elementary Statistical Methods II
 - PSY 20500 - Testing and Measurement
 - PSY 44100 - Advanced Research in Personality and Social Psychology
- 18 Category 2-Science/Math/CS/Social Science: Select 6 of the following courses in human/animal biology, chemistry, math/statistics, computer science, or sociocultural forces, at least two of which must be in BIOL, CHM, CS, MA, or STAT; may not be used to fulfill another requirement:
 - BIOL 11700 - Principles of Ecology and Evolution

IPFW Residency Requirements: _____ 32 credits at 200 level or above at IPFW _____ with 15 of 32 credits at 300-400 in major

B.A. Requirements: _____ 120 credits _____ 30 credits 300-400 level _____ 2.0 GPA Degree/Major/Gen Ed _____ C- or above in Major/Gen Ed

- ___ BIOL 11900 - Principles of Structure and Function
- ___ BIOL 12600 - Human Biology
- ___ BIOL 12700 - Introduction to Human Diseases
- ___ BIOL 20300 - Human Anatomy and Physiology I
- ___ BIOL 20400 - Human Anatomy and Physiology II
- ___ BIOL 32600 - Heredity: A Human Perspective
- ___ BIOL 32700 - Biology of Aging
- ___ BIOL 33500 - Animal Behavior
- ___ CHM 11500, 11600 - General Chemistry
- ___ CHM 25500, 25600, 26100, 26200 - Organic Chemistry
- ___ CS 16000, 16100 - Introduction to Computer Science I, II
- ___ CS 36800 – Human-Computer Interaction
- ___ CS 38000 – Artificial Intelligence
- ___ CS courses in programming languages
- ___ MA/STAT courses that have MA 15300 as a prerequisite
- ___ ANTH B200 - Bioanthropology
- ___ ANTH courses at 300 level or above
- ___ POLS courses at 300 level or above
- ___ SOC courses at 300 level or above

ARTS & SCIENCES BS LIBERAL ARTS REQUIREMENTS (14-15 credits — credits may vary with double counting/language placement)

- ___ 3 Second Semester Writing (C- or higher) (ENG W233 or ENG W140)
- ___ 3 Speaking Requirement (C- or higher) (COM 11400 or HIST H125)
- ___ 8 Credits Language Sequence (credits required for 2 semesters of same foreign language)
 - ___ (1st) ___ (2nd) Options: (Arabic, French, German, Japanese, Latin, Spanish)

GENERAL EDUCATION REQUIREMENTS (33 Credits)

****Up to 6 credits in Gen Ed GA1 to GB7 and 3 credits GCAP (C8) may originate in major discipline.**

- ___ 3 GA1 Category A1 -- Written Communication (See Bulletin or myBLUEprint for **General Education** courses)
- ___ 3 GA2 Category A2 -- Speaking and Listening
- ___ 3 GA3 Category A3 -- Quantitative Reasoning: MA 153
- ___ 3 GB4 Category B4 -- Scientific Ways of Knowing
- ___ 3 GB5 Category B5 -- Social & Behavioral Ways of Knowing
- ___ 3 GB6 Category B6 -- Humanistic and Artistic Ways of Knowing
- ___ 3 GB7/71 Category B7 or B71 -- Interdisciplinary or Creative Ways of Knowing
- ___ 9 Additional Credits -- Category A or B General Education courses
- ___ 3 GCAP Category C8--Capstone Experience (IPFW course only)

MINOR/ELECTIVE COURSES (to reach 120 credits):

*****An upper level minor/elective course(s) may be necessary to complete BA—see advisor for assistance in planning degree requirements.**

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PSY 12000 (GB5)	Elementary Psychology	Self-Place at ENG W131 or ENG 130 & R190	3	PSY 14000	Critical Foundations PSY	PSY 12000	3
ENG W131 (GA1)	Reading, Writing, & Inquiry I	Placement or ENG W129 (C- or above)	3	PSY 20100	Intro to Stat in Psych	PSY 12000	3
GA3	Gen Ed Quantitative (MA 15300 or MA 15400 or MA 16500 or MA 22900)	Placement or MA 11100 for MA 153	3	PSY 23500 or 36900, 24000, 35000, 42000	Psychology Distribution (3 out of the 4 courses required in PSY major)	PSY 12000 (ENG W233 is recommended for PSY 42000)	3
GB6	Gen Ed Hum/Artistic		3	GB4	Gen Ed Science course (include lab w/ GB4 or Supporting B.S. Courses-Category 2)	*See COAS Lab Requirement	3
FL 1 st semester	Foreign Language 1		4	FL 2 nd semester	Foreign Language 2	FL 1/placement	4
Total Semester Credit Hours			16	Total Semester Credit Hours			16

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PSY 20300	Intro to Res Meth in PSY	PSY 14000 and PSY 20100	3	PSY 23500, 36900, 24000, 35000 or 42000	Psychology Distribution (3 out of the 4 courses required in PSY major)	PSY 12000 (ENG W233 is recommended for PSY 42000)	3
PSY 23500 or 36900, 24000, 35000 or 42000	Psychology Distribution (3 out of the 4 courses required in PSY major)	PSY 12000 (ENG W233 is recommended for PSY 42000)	3	PSY 20000+	PSY 20000+ level course	√	3
COM 11400 (GA2/A&S)	Fundament of Speech		3	Gen Ed A/B	Gen Ed A or B course		3
ENG W233	Intermed Expos Writing	ENG W131 (C- or above)	3	Supporting B.S. Courses	Category 1 or 2	√	3
Supporting B.S. Courses	Category 1 or 2	√ *See COAS Lab Requirement	3	Supporting B.S. Courses	Category 1 or 2	√	3
Total Semester Credit Hours			15	Total Semester Credit Hours			15

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PSY 31400	Introduction to Learning	PSY 120	3	PSY 32900 or PSY 41600	Psychobiology or Cognitive Psychology	PSY 20300	3
PSY 49600	Supervised research assistantship		3	GCAP (C8)	Gen Ed Capstone	√	3
GB7/71	Gen Ed Creat/Interdisc		3	Gen Ed A/B	Gen Ed A or B course		3
Supporting B.S. Courses	Category 1 or 2	√	3	Gen Ed A/B	Gen Ed A or B course		3
Supporting B.S. Courses	Category 1 or 2	√	3	Supporting B.S. Courses	Category 1 or 2	√	3
Total Semester Credit Hours			15	Total Semester Credit Hours			15

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PSY 32900 or PSY 41600	Psychobiology or Cognitive Psychology	PSY 20300	3	PSY 20000+	PSY 20000+ level course	√	
PSY 43100, 44100, 49000, 49900, or 54000	Psychology Capstone	PSY 20300	3	Elective/Minor	Elective or minor course	√	3
Supporting B.S. Courses	Category 1 or 2	√	3	Elective/Minor	Elective or minor course	√	3
Elective/Minor	Elective or minor course	√	3	Elective/Minor	Elective or minor course	√	3
Elective/Minor	Elective or minor course	√	3	Elective/Minor	Elective or minor course (*if needed/120 credits)	√	*1
Total Semester Credit Hours			15	Total Semester Credit Hours			13

√ = See IPFW Bulletin or myBLUEprint for additional course prerequisites

Summer Courses:

120 credits required for Bachelor of Arts degree
2.0 GPA required for Bachelor of Arts degree/major

IPFW Residency Requirements: ____ 32 credits at 200 level or above at IPFW ____ with 15 of 32 credits at 300-400 in major
 B.A. Requirements: ____ 120 credits ____ 30 credits 300-400 level ____ 2.0 GPA Degree/Major/Gen Ed ____ C- or above in Major/Gen Ed

Table 1
Question 3a: Cost of and Support for the Program
Detail on Direct Program Costs
Purdue IPFW Campus
BS in Psychology Program

	Total Year #1		Total Year #2		Total Year #3		Total Year #4		Total Year #5	
	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
1. Faculty and Staff										
a. Faculty	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.00	\$0.00
b. Limited Term Lecturers	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.00	\$0.00
Total	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00	0.00	\$0.00
2. Supplies and Expense										
a. General Supplies/Expenses		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
b. Recruiting		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
c. Travel		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
d. Library		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
e. Other		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
Total Supplies and Expense		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
3. Equipment										
a. Additional Lab Equipment		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
b. Routine Repair & Replacement		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
Total Equipment		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
4. Student Assistance										
a. Graduate Fee Scholarships		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
b. Fellowships		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
Total Student Assistance		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00
Sum of All Direct Program Costs		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00

Table 2
Data for Question # 6
Projected Headcount and FTE Enrollment and Degrees Conferred
Date: 07/27/17

Institution/Location: Indiana University Purdue University Fort Wayne
Program: Program ABC

	<u>Year #1</u> <u>FY 2019</u>	<u>Year # 2</u> <u>FY2020</u>	<u>Year # 3</u> <u>FY 2021</u>	<u>Year # 4</u> <u>FY 2022</u>	<u>Year # 5</u> <u>FY 2023</u>
Enrollment Projections (Headcount)					
Full-Time	45	90	134	179	179
Part-Time	10	20	31	41	41
Total	55	110	165	220	220
Enrollment Projections (FTE)					
Full-Time	37	75	112	150	150
Part-Time	9	17	26	34	34
Total	46	92	138	184	184
Degree Completions Projection	11	22	33	44	44

CHE Code: 12-XX
Campus Code: XXXX
County: Allen
Degree Level: B.S.
CIP Code: Federal - 42.2799; State - 42.2799

Liaison Librarian Memo

Date: 7/24/17
From: Sue Skekloff
To: Carol Sternberger
Re: Proposed B.S. degree in Psychology

Describe availability of library resources to support proposed new program:

I have been the librarian liaison to Psychology for over 30 years and have observed their careful attention to the library's holdings in the discipline. I find the information on the checklist to be accurate. Of the seven journals listed as necessary, our library has current subscriptions to all, and in some cases extensive backfiles. Psychology has also always been quite thorough in their selection of books and DVDs and utilized their book budget appropriate to their course offerings and student and faculty needs. They submitted many successful Special Needs proposals over the years to strengthen areas as needed in the collection.

Comments:

Thus I find Helmke's psychology collection already quite substantial and would expect the department's interest in library holdings to continue once the B.S. is in place. They note our library holds the basic databases, PsycINFO, PsycARTICLES, and the Biological Science Collection. That being said, new subscriptions which may come to light as needed in the future would likely have to be funded by an increase in the library's budget.

Sue Skekloff, Associate Librarian

July 24, 2017

Liaison Librarian Signature

Date

MEMORANDUM

TO: Fort Wayne Senate

FROM: David S. Cochran, Chair
Graduate Subcommittee

DATE: July 10, 2017

SUBJ: Nonprofit Management Concentration in the Masters of Public Management (MPM)
Degree Program

The Graduate Subcommittee approved on July 10, 2017 the attached four documents regarding subject concentration in the MPM degree program.

The committee finds that the proposed concentration requires no Senate review.

David Cochran, Ph.D.
Chair, Graduate Subcommittee
Department of Electrical and Computer Engr.

Approving:

David S. Cochran
Kerrie Fineran
Shannon Johnson
Mark Jordon
David Liu

Not Approving:

Abstain:

Cigdem Gurgur



Liaison Librarian Memo

Date: 10/21/2016

From: Tiff Adkins, Liaison Librarian to the Department of Public Policy

To: Brian Fife, Chair, Department of Public Policy


Re: Helmke Library resources available to support a new concentration for the Master of Public Management (MPM) in nonprofit management.

Describe availability of library resources to support proposed new program:

Generally speaking, the online and physical resources available from Helmke Library that support the current Public Management major for the Master of Public Management (MPM), will support the addition of a Nonprofit Management concentration.

Comments:

As the department seeks out accreditation from NASPAA (Network of Schools of Public Policy, Affairs, and Administration), seeking additional funding for new library resources would be beneficial. A Helmke Library *Special Needs Grant*, would be one possibility for purchasing needed materials to help build the collections in this area. Along with continuing collection development efforts, students and faculty will also have the support of a superb intra- and interlibrary loan system.


Liaison Librarian Signature

10-21-2016

Date

IPFW

Request for a New Major, Track, Concentration, or Specialization

- I. Name of proposed major, track, concentration or specialization

Nonprofit management (concentration in the Master of Public Management degree program)

- II. Title of degree to be conferred

Master of Public Management

- III. Field of study, department, and college involved

Department of Public Policy (College of Education and Public Policy)

- IV. Objectives of the proposed major, track, concentration or specialization

Current MPM students have two choices for concentrations: health systems administration and policy and public administration and policy. A nonprofit management concentration would afford students enrolled in the degree program a third option, one that currently does not exist in the northeastern Indiana region. At present there are about 15 students in each existing concentration. It is projected that the nonprofit concentration will mirror the other two concentrations in terms of enrollments, with the net result of expanding the program by approximately one-third.

- V. Proposed Date of Initiation

The proposed implementation date is Fall 2018.

- VI. Describe the relationship of the proposed major, track, concentration or specialization to the mission of the campus or the department

The mission of the Department of Public Policy at IPFW is to improve the quality of public service through teaching current and prospective public servants, through research on public issues, and through service to organizations with public policy interests. The proposed new concentration would be another opportunity for interested students to engage in public service as a career after completing their master's degrees at IPFW.

- VII. Describe any relationship to existing programs within the campus

There has never been a nonprofit management option at the graduate level at the IPFW campus. As such, it does not conflict with any existing program.

VIII. Describe any cooperative endeavors explored and/or intended with other institutions or organizations

No joint endeavors with other institutions or organizations are envisioned at this time.

IX. Describe the need for the major, track, concentration or specialization

Fort Wayne is the second largest city in Indiana with an estimated population in excess of 260,000; Allen County has an estimated population of more than 360,000 people. According to officials at the School of Public and Environmental Affairs at Indiana University, Allen County has more than 4,000 nonprofit organizations in existence at the present time (see <http://www.indiana.edu/~nonprof/profiles/featured/fortwayne.php>). There is clearly a critical mass of potential students in this particular field of public service.

The Department of Public Policy has also submitted a new undergraduate proposal for a nonprofit management and leadership concentration in the Bachelor of Science in Public Affairs (BSPA) degree. The members of the department believe that this region of the state could be better served with formal higher education programs focused on the nonprofit sector. Currently, Indiana University-Bloomington and Indiana University-Purdue University Indianapolis have similar programs at both the undergraduate and graduate levels. These programs are thriving in their respective settings and there is no reason to believe that the same scenario cannot be replicated in Fort Wayne. In addition, the department has the unanimous support for both nonprofit proposals by its Community Advisory Board (CAB). For a current list of the CAB members, see <http://www.ipfw.edu/departments/cepp/depts/public-policy/about/community-advisory-board.html>.

X. Describe the resources required over and above current levels to implement the proposed major, track, concentration or specialization*

To fully implement this new concentration if endorsed at the campus level, the Department of Public Policy would have to be authorized by the Vice Chancellor for Academic Affairs to hire one additional full-time tenure-track colleague. The department could not implement this new major by relying exclusively on the personnel that currently exist. A new faculty position will be requested to the Vice Chancellor for Academic Affairs in the summer of 2017.

XI. A Liaison Library Memo

See attached

XII. Proposed curriculum

If approved by the appropriate entities, the new concentration would have the following curriculum:

The MPM degree requires 39 credit hours for completion. There are four components to the degree:

1. Core requirements (21 credit hours)
2. Concentration requirements (12 credit hours)
3. Experiential requirement (3 credit hours)
4. One elective (3 credit hours)

MPM Core Requirements (21 credit hours)

PPOL V502 (Public Management) 3 credit hours. Analysis of concepts, methods, and procedures involved in managing public organizations. Problems of organization, planning, decision making, performance evaluation, and management of human resources are considered. Cases are drawn from a variety of public services found at federal, state, and local levels of government.

PPOL V506 (Statistical Analysis for Effective Decision Making) 3 credit hours. Noncalculus survey of concepts in probability, estimation, and hypothesis testing. Applications of contingency table analysis and analysis of variance, regression, and other statistical techniques. Computer processing of data emphasized.

PPOL V509 (Administrative Ethics in the Public Sector) 3 credit hours. Ethical conduct in the public sector is examined. Topics covered could include personal ethical responsibility, deception, corruption, codes of ethics, policy-making, morality, politics, and whistle blowing. Case studies and media material will be used to illustrate these and other such issues affecting the workplace.

PPOL V560 (Public Finance and Budgeting) 3 credit hours. The fiscal role of government in a mixed economy; sources of public revenue and credit; administrative, political, and institutional aspects of the budget and the budgetary process; problems and trends in intergovernmental fiscal relations.

PPOL V562 (Public Program Evaluation) 3 credit hours. Examination of how the programs of public agencies are proposed, established, operated, and evaluated. Discussion of the role and conduct of research in the program evaluation process. In addition, techniques of effective evaluation and analysis are discussed.

PPOL V566 (Executive Leadership) 3 credit hours. The course offers an in-depth examination of factors that contribute to successful executive leadership practice in a wide variety of organizational settings. Topics include what leadership is, what impact leadership has, and how leaders use various approaches and powers to achieve their goals.

PPOL V600 (Capstone in Public and Environmental Affairs) 3 credit hours. Interdisciplinary course designed to give students exposure to the realities of the policy process through detailed analyses of case studies and projects. Course integrates science, technology, policy, and management.

MPM Concentrations (12 Credit Hours)

Currently, the MPM has two concentrations available for students: Health Systems Administration and Policy and Public Administration and Policy.

Health Systems Administration and Policy

PPOL H517 (Managerial Epidemiology) 3 credit hours. Examines general epidemiologic methods such as population descriptive techniques, use of health indicators, and secondary data sources. Includes design, administration, and analysis of observational and experimental studies. Emphasis will be on the use of epidemiologic techniques to assess community health, determine community risk factors, and evaluate community-based programs.

PPOL V543 (Health Services Management) 3 credit hours. A course that integrates theory and applications with respect to management of health service organizations. Emphasis on the role of managers and management within formal health service organizations. Current management and organization theories are applied to an understanding of health care delivery settings.

PPOL V545 (The U.S. Health Care System) 3 credit hours. An analysis of the delivery of health care in the United States from 1900 to the present. Major system components are defined and studied with an emphasis on current health care policy. Topics include the organization of health care delivery on federal, state, and local levels, in both public and private sectors.

PPOL V546 (Health Services Utilization) 3 credit hours. An examination of problems of access to health care and the utilization of health services. The social, political, and individual factors associated with utilization are studied, along with social change and control strategies. Special emphasis is given to power and the definition of power in the system.

Public Administration and Policy

PPOL V504 (Public Organizations) 3 credit hours. This course focuses on the behavior and theory of public organizations in four areas: (1) individuals and groups in public organizations, (2) the design of public organizations, (3) organization-environment relations, and (4) interorganizational relations.

PPOL V 512 (Public Policy Process) 3 credit hours. An examination of the role of public affairs professionals in policy processes. Focuses on relationships with political actors in various policy areas.

PPOL V539 (Management Science for Public Affairs) 3 credit hours. Focuses on management science methods as applied to public affairs. Includes treatment of decision theory, constrained optimization, and probability simulation.

PPOL V540 (Law and Public Affairs) 3 credit hours. Explanation of law in society and its influence on public sector operations. Examination of some of the central substantive areas of the study of law, including regulatory processes, administrative adjudication, the Administrative Procedures Act, ombudsmen, and citizen rights, among others.

Proposed Nonprofit Management Concentration

PPOL V521 (The Nonprofit and Voluntary Sector) 3 credit hours. The theory, size, scope, and functions of the nonprofit and voluntary sector are covered from multiple disciplinary perspectives including historical, political, economic, and social.

PPOL V525 (Management in the Nonprofit Sector) 3 credit hours. An examination of nonprofit organizations and their role in society. Management issues and public policy affecting these organizations are discussed. Primary emphasis is upon U.S. organizations, but attention is given to the global nature of the sector.

PPOL V557 (Proposal Development and Grant Administration) 3 credit hours. This course provides the opportunity for each student to develop a complete proposal through participation in the entire grant application process. The integration of case studies, visual media, printed materials, and class discussions provides students with practical knowledge for writing successful proposals.

PPOL V558 (Fund Development for Nonprofits) 3 credit hours. Important aspects of the fund raising process in nonprofit organizations are covered, including techniques and strategies for assessing potential sources of support; effective use of human resources; process management; theory to underlay practice; analysis of current practice; practice standards; and discussion of ethical problems.

Experiential Component (3 Credit Hours)

Each student in the MPM degree program must complete the three 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).

One Elective Course (3 Credit Hours)

A student may take other PPOL graduate courses not listed to satisfy the elective requirement. Other IPFW graduate courses must be approved by the director of graduate studies.

*** The library resource questionnaire available at:**

<http://www.ipfw.edu/offices/oa/programs/curriculumdev.html>

When developing a new degree program, major, certificate, minor, concentration, track, or specialization please review the questions below when developing your response to the library or additional resources sections. Please consult your liaison librarian for assistance.

Library Resources

Address the following issues regarding the impact of the new program on the library's budget and personnel. Please respond to each item below indicating the library sources and services required to support the proposed program.

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

A complete list of databases and indexing sources are available at:

<http://guides.library.ipfw.edu/publicpolicy>.

- 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?

The following journals would be utilized by students in this major:

Public Administration Review

The American Review of Public Administration

Nonprofit and Voluntary Sector Quarterly

Nonprofit Management and Leadership

Journal of Public and Nonprofit Affairs

There is no expectation that access to new journals would have to be purchased for the student majors in this program.

- 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

- 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? Yes; articles and books for the most part.
- 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? Tiff Adkins
- Memo from Liaison Librarian regarding resources. See attached
- 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? No