Program Summary

Task Force: Thank you for the time and effort you put forth in your report. Through the USAP process, we are working to create a culture of continuous improvement; setting specific and measurable goals is an important step in the process of moving IPFW toward this culture of improvement. Part of this effort is getting individuals and units at IPFW to think differently about planning and the future. The work of Civil and Mechanical Engineering is critical to IPFW and we greatly appreciate the time you spent on this significant endeavor.

This unit has submitted an ambitious set of goals, although we were puzzled that nearly all the goals listed a timeline of “ongoing” (as in, unit is already meeting them) and yet in relation to most of the goals, the unit said it needed more resources to achieve them. This seems to be a contradiction. We would have liked some sense of how the unit is using resources currently. Most of the goals are focused on developing the unit. Is there a way to write the goals so that it is clearer how they contribute to something larger: the success of the university?

More specific feedback is provided for each goal in the appropriate section. Thank you again for being part of this important initiative.

Criterion: #1: Mission - How does your unit support the mission of the university? This may include your mission and vision statements. (no more than 200 words)

Question: Mission - How does your unit support the mission of the university? This may include your mission and vision statements. (no more than 200 words)

The mission of the civil and mechanical engineering programs is to support the needs of Northeast Indiana through education, scholarship and service. We are committed to providing quality educational opportunities to both traditional and non-traditional students and seek to equip our students with the knowledge, skills, and experience to pursue productive engineering careers. Our faculty is also dedicated to excellence in scholarship and service to the community and the profession.

As a framework for the continuous improvement policy, our programs have adopted a set of objectives that describe the anticipated accomplishments of our graduates 3-5 years after graduation.

The civil and mechanical engineering program educational objectives are to produce graduates who:

- Function and communicate effectively both as individuals and in multidisciplinary teams to solve technical problems.
- Advance professionally to roles of greater engineering responsibilities and/or by transitioning into leadership positions.
- Participate in life-long learning through the successful completion of advanced degree(s), professional development, and/or engineering certification(s)/licensure.
- Demonstrate a commitment to community by applying technical skills and knowledge to support various service activities.

The civil and mechanical engineering programs continuously work to accomplish this mission while being responsive to its constituents (students, faculty, industry, and advisory boards) and accrediting body.
#2: Accomplishments - Please list significant accomplishments from the last three years as they align with Plan 2020 goals

**Question:** I. Foster Student Success - Please list significant accomplishments from the last three years as they align with Plan 2020 goal area I: Foster student success.

Listed below are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

- Seventeen civil and mechanical engineering students took the Fundamentals of Engineering (FE) Exam with a 100 percent passing rate. The exam is typically the first step in the process leading to the Professional Engineering (PE) license. It is designed for students who are close to finishing an accredited, undergraduate engineering degree. The National Council of Examiners for Engineering and Surveying develops, administers, and scores the examinations used for engineering and surveying licensure in the U.S.
- One CE and one ME alumni took the eight-hour Professional of Engineering (PE) Exam and passed with outstanding results. This exam is the last step toward professional licensure.
- Several CE and ME graduates were admitted with support to engineering graduate schools to pursue their M.S. or Ph.D. degrees.
- All CE graduates and most ME graduates were employed within two months of graduation mostly in Fort Wayne area.
- Over twenty civil engineering students (and faculty) participated in the 2014 American Society of Civil Engineers (ASCE) Great Lakes Conference held at the University of Illinois at Urbana-Champaign. Overall, IPFW placed 6th place of the 19 participating schools, and 3rd place of the nine schools from the state of Indiana. Competition submissions included a steel bridge, concrete canoe, technical paper, material design, and surveying.
- Many students presented research papers at IPFW and/or international conferences. Some undergraduate and graduate students co-authored journal articles.
- Civil and mechanical engineering senior teams successfully completed industrial sponsored projects. These projects are the capstone educational experience for our students. For a complete list of 2013-2014 senior design projects and sponsors refer to http://new.ipfw.edu/departments/etc/engr/capstone/.
- Seventy-two graduates compared to fifty-nine for the previous academic year. In 2013, the undergraduate engineering graduation rate was 23.5% of the total students in the programs. Note: this data is for all engineering programs.
- In 2013, the engineering (CE, CmpE, EE, and ME) stop-out rate was only 7.8% and the freshman engineering rate was 31.8%.
- Michael Kretschmer (BSME) published a paper in the Journal of Purdue Undergraduate Research (D. Mueller was the advisor of research project)
- S. Ashur was selected the IPFW Student Organization Advisor of the Year 2013.
- D. Chen received the 2013 ETCS Teaching Excellence Award.

Listed are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

**Question:** II. Creation of Knowledge - Please list significant accomplishments from the last three years as they align with Plan 2020 goal area II: Promote the Creation, Integration, and Application of Knowledge.
Listed below are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

- In 2013, the engineering department (all programs) had over sixty publications (5 books/book chapters, a technical research report, 29 journal articles, and 26 conference papers). For a complete list of the 2013 publications refer to [http://www.ipfw.edu/departments/etc/etcs/depts/engr/faculty/publications.html](http://www.ipfw.edu/departments/etc/etcs/depts/engr/faculty/publications.html). Although this number is quite high, due to the IPFW budget shortfall (department budget cut of $50,000), the number of publications decreased as compared to the previous years.

- Civil and mechanical engineering seniors successfully completed industrial sponsored projects. Students presented these projects to faculty, industry sponsors, and the community. For a complete list of 2013-2014 senior design projects and sponsors refer to [http://new.ipfw.edu/departments/etc/etcs/depts/engr/capstone/](http://new.ipfw.edu/departments/etc/etcs/depts/engr/capstone/).

- Five faculty finalized the work on a $691,845 (Co-PIs: D. Mueller, T. Cooklev, H. Oloomi, C. Pomalaza-Ráez, S. Walter) grant from the National Science Foundation to support graduate program in Wireless Technology and Systems Engineering. The duration of the grant is from 8/2010–9/2013.

- H. Abu-Mulaweh had a $5,000 grant from ASHRAE.

- M. Alhassan and S. Ashur were awarded a grant from INDOT for $45,086 from 1/2013 to 2/20-14.

- D. Chen is working with M. Yen and P. Lin on a project funded by US Army Engineering & Research & Development Center ($587,678). This project is from 2010-14.

- D. Chen is working on a project funded by the US Geological Survey through Indiana Water Resources Research Center ($25,308).

- J. Njock Libii continued to participate in an NSF grant proposal through Utah State University. The funding for IPFW is ($24,197) and the duration of the grant is from 8/11 to 7/15.

- Sixteen faculty worked on sponsored projects in 2013. These included federal and state funded research projects, technical assistance program (TAP) projects, and technical assistance agreement projects (TAA).

- B. Kang received the 2013 IPFW Sigma Xi Research Award.

- Z. Bi received the 2013 ETCS Research Excellence Award.

- H. Abu-Mulaweh has been invited to serve as Editor-in-Chief for the International Journal of Engineering & Technology Research.

- Several of our faculty members served on editorial advisory boards and/or technical committees, and reviewed manuscripts for publication.

Listed are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

**Question:** III. Regional Hub - Please list significant accomplishments from the last three years as they align with Plan 2020 goal area III: Serve as a Regional Intellectual, Cultural, and Economic Hub for Global Competitiveness.
Listed below are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

- The IPFW student chapter of the Society of Women Engineers organized the 10th annual Opportunity Banquet. The event creates an opportunity for corporations to meet IPFW engineering, technology, and computer science students as well as job seekers from the general public, allowing them to mingle with potential employers.
- S. Ashur sponsored and hosted with the ASCE Student Chapter at IPFW a workshop on Complete Streets in 2013.
- The Department of Engineering works on many projects with local industry and government. These included federal and state funded research projects, technical assistance program (TAP) projects, and technical assistance agreement projects (TAA).
- Many engineering faculty members serve as judges and referees at events such as First Lego League, Bridge Building Contest, Summit Scholars Competition, and Sigma Xi Student Research Competition. They also volunteer to give presentations at Middle School Career Day and other campus visit days.
- Civil and mechanical engineering seniors successfully completed industrial sponsored projects. Most of these projects are sponsored by industry. Students work closely with local industry providing technical solutions to engineering problems. For a complete list of 2013-2014 senior design projects and sponsors refer to [http://new.ipfw.edu/departments/etcs/depts/engr/capstone/](http://new.ipfw.edu/departments/etcs/depts/engr/capstone/).

Listed are the accomplishments for the calendar year 2013. The accomplishments for 2011 and 2012 are similar.

**Question:** IV. - Create a Stronger Univ - Please list significant accomplishments from the last three years as they align with Plan 2020 goal area IV: Create a Stronger University through Improving the Support of Stakeholders and the Quality and Efficiency of the Organization.

N/A

**Question:** Other Accomplishments - Please list any other significant accomplishments from the last three years that do not align with Plan 2020.

N/A

**Criterion:** #3: Accreditations - Program specific accreditation and status

**Question:** Accreditations - What program-specific accreditations and status do you have, if any?

Two programs, Bachelor of Science in Civil Engineering (BSCE) and Bachelor of Science in Mechanical Engineering (BSME), are accredited by the Accreditation Board for Engineering and Technology (ABET) through August 2018.
Constraints/Benefits - How do these accreditations constrain or benefit the work of your unit, if applicable?

The accrediting body requires functional and up-to-date equipment & labs, sufficient technical support staff, and adequate space for programs. Program faculty must maintain currency in the field. Programs (curriculum, labs, etc.) must undergo a continuous improvement process which is outlined in each program's assessment plan.

The curriculum must include a meaningful design experience.

Criterion: #4: Laws and Mandates - Federal and state laws or mandates that your unit addresses

Question: Federal and State Laws - What federal and/or state laws or mandates do you address, if any?

Act in accordance with relevant transfer agreements and general education requirements.

Provide safe lab environment by following all state and federal regulations of handling hazardous materials and waste.

Question: Constraints/Benefits - How do these federal and state laws or mandates constrain or benefit the work of your unit?

The current environmental lab is small with a maximum capacity of six students. This issue has forced the department to run the lab three times during the semester in order to accommodate the number of students who are required to take the course.

Criterion: #5: Inefficiencies - Activities that you spend resources on inefficiently or in ways that do not support the mission.

Question: Inefficient use of resources - On what activities, if any, do you spend resources (money, time, people, etc.) inefficiently or in ways that do not support the mission of your unit or the university? List as many as apply.

N/A

Criterion: #6: IR and Budget Review - Review of your department profile and budget

Question: Contextualize IR data - Upon review of your IR Department Profile (for academic units) and FY 14-15 Budget information, are there any data you want to correct or contextualize? To view your profile or budget visit the Office of Institutional Effectiveness website: http://www.ipfw.edu/offices/ir/profiles/

N/A
Criterion: #7: Goal One - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

Task Force: 1. Comment on the specificity of the goal:

Not specific—there seem to be a number of goals here. We noted that the claim is made that this goal is a student learning assessment goal, but it is unclear how.

2. Comment on the goal's measures:

Unclear. The criteria need to be explained further.

3. Comment on the unit's ability to achieve the goal (include a consideration of the departmental profile and budget data):

Unit asks for considerable resources. We were concerned about what this says about the department's current level of education.

4. Comment on the goal's relevance:

We are aware that investment in STEM programs is a priority, and this goal addresses that priority.

5. Comment on the timeline of the goal:

"Ongoing"

Possible opportunities for collaboration or suggestions for addressing a gap:

Question: Unit Goal - What is your unit goal?

Provide undergraduate civil and mechanical engineering students access to high-quality, accredited programs that include relevant curriculum, engaged and experiential learning experiences, and up-to-date laboratory activities.

Question: IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write "NA" or clarify.


Foster Student Success

I.A. Process Goals: Improve Measurement of Student Learning

I.A.2. Use assessment data to improve student learning.


I.B.1. Increase opportunities for engaged and experiential learning including service learning and internship programs.

I.E. Process Goal: Develop signature programs

I.E.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.

Question: Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

High

Question: Actions - What action(s) does your unit plan to take to support this unit goal?

Monitor, manage, update, and continuously improve the programs, courses, and labs, following our assessment-based program

Question: Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

Multiple metrics, as detailed in the civil and mechanical engineering programs’ assessment plans and reports, including:

- student learning outcome achievement - at least 75% in 100% of assessed courses
- exit surveys - 100% satisfaction, as indicated on survey for graduating students
- employer and alumni surveys - 100% satisfaction, as indicated on survey for employers and alumni

Question: Resources - Are you able to accomplish this unit goal with your current resources?

No

Question: Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?
CME Civil and Mechanical Engineering

- CE Lab budget = $25,000 per year and ME Lab budget = $25,000 per year
- construction management and transportation lab
- environmental engineering lab
- senior design lab
- release for program assessment of 0.08 FTE/semester
- technician with skills and training to support CE lab activities
- hot spot area (welding) for senior design and extracurricular activities

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

- lack of sufficient space for engaged and experiential learning experiences
- lack of adequate technical support for two accredited, undergraduate programs (CE and ME) and a graduate program that includes a research option

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #8: Goal Two - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:** 1. Comment on the specificity of the goal:

Clearer articulation of the goal

2. Comment on the goal's measures:

Not clear what the benchmarks are and what success will mean

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

Need help from Marketing.

Need to clarify how the Weitzman scholarship fits in here

Need to clarify steps that will be taken to increase retention

4. Comment on the goal’s relevance:

We are aware that investment in STEM programs is a priority, and this goal addresses that priority.

5. Comment on the timeline of the goal:

"Ongoing" When will the baseline be completed?

Possible opportunities for collaboration or suggestions for addressing a gap
**Question:** Unit Goal - What is your unit goal?

Increase the number of qualified students entering the program and help students successfully advance through the program in a timely manner.

**Question:** IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.

- Foster student success

**I.E. Process Goal: Develop signature programs**

- I.E.1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
- I.E.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.
- I.E.3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
- I.E.4. Promote majors and programs with strong job placement opportunities in the region and beyond.

**Question:** Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

High

**Question:** Actions - What action(s) does your unit plan to take to support this unit goal?

- Monitor, manage, update, and continuously improve the programs, courses, and labs, following our assessment-based process

- Recruit and support qualified students with the $3.4 million Weitzman scholarship

**Question:** Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

- Multiple program statistics including enrollment, retention, and graduation rates - establish baseline statistics and show sustainable growth and improvement

**Question:** Resources - Are you able to accomplish this unit goal with your current resources?

No

**Question:** Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?
CME Civil and Mechanical Engineering

- support from marketing to publicize programs
- support to create effective recruitment and outreach programs
- $3.4 million Weitzman scholarship
- dedicated, professional engineering advisor (newly created position with 0.5 FTE assigned to the CME programs)

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

Reputation of IPFW engineering programs as compared to engineering programs at Purdue WL could hamper recruitment of qualified students

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #9: Goal Three - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:** 1. Comment on the specificity of the goal:

Could add clarification/context.

2. Comment on the goal's measures:

How many of each by each person (No benchmarks)

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

Unclear. Seems to depend on others.

4. Comment on the goal’s relevance:

STEM

5. Comment on the timeline of the goal:

"Ongoing"

Possible opportunities for collaboration or suggestions for addressing a gap:

**Question:** Unit Goal - What is your unit goal?

Expand faculty production of high-quality and high-impact scholarship in both teaching and research.
IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.

Promote the creation, integration, and application of knowledge

II.A. Project future regional, national, and international demand for research and collaboration.
II.B. Promote mentoring relationships between faculty and students engaged in creation, integration, and application of knowledge.

II.C. Promote the 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

III.A. Expand meaningful collaborations and research opportunities with regional, national, and global partners.

**Question:** Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

High

**Question:** Actions - What action(s) does your unit plan to take to support this unit goal?

Support faculty with sufficient resources to maintain currency in their rapidly changing fields, to develop professionally, and to expand scholarship.

**Question:** Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

Multiple metrics including

- publications and presentations - establish a baseline and show increase in quantity and quality (through awards, citations, impact, etc.)
- TAP, TAA, and other industry-academic research projects - establish a baseline and show increase in quantity and quality (through sponsor feedback, etc.)
- research and teaching proposals - establish a baseline and show increase in quantity (number submitted) and quality (number funded)
- joint publications and presentations with undergraduate and graduate students (see Goal 6)

**Question:** Resources - Are you able to accomplish this unit goal with your current resources?

No

**Question:** Needed Resources - If you don't have enough resources, what additional resources do you need to accomplish this unit goal?
CME Civil and Mechanical Engineering

- sufficient professional development funds of $1500 x number of faculty = $15000 per year
- adequate support for graduate program (see Goal 4), undergraduate research program (Goal 6), and modeling and simulation lab (see Goal 7)

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

lack of time and appropriate award structure

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #10: Goal Four - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:** 1. Comment on the specificity of the goal:

Specific, but it is unclear if the point is to establish a new program, or make the old program "stable and vibrant" and more productive

2. Comment on the goal's measures:

Some clarification would be useful.

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

Hard to say, without knowing clearly what goal is. Clearly requires considerable external support

4. Comment on the goal’s relevance:

STEM

5. Comment on the timeline of the goal:

“Ongoing”

Possible opportunities for collaboration or suggestions for addressing a gap:

Need help from Admissions and Office of International Education

**Question:** Unit Goal - What is your unit goal?

Establish a stable and vibrant graduate program in the areas of civil and mechanical engineering that supports the production of high-quality and high-impact scholarship of students and faculty.
Question: IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.

Foster student success

I.C. Process Goals: Increase interdisciplinary and graduate programs and internationalization of the curriculum.
I.C.1 Develop and promote interdisciplinary programs where there are sufficient university assets available and anticipated employment needs.
I.C.7. Establish links between baccalaureate and post-baccalaureate programs.
I.C.8. Respond to regional demand with appropriate post-baccalaureate credentials.

I.E. Process Goal: Develop signature programs
I.E.1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
I.E.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.
I.E.3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
I.E.4. Promote majors and programs with strong job placement opportunities in the region and beyond.

Promote the creation, integration, and application of knowledge

II.A. Project future regional, national, and international demand for research and collaboration.
II.B. Promote mentoring relationships between faculty and students engaged in creation, integration, and application of knowledge.

Serve as a regional intellectual, cultural, and economic hub for global competitiveness

III.A. Expand meaningful collaborations and research opportunities with regional, national, and global partners.

Question: Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

High

Question: Actions - What action(s) does your unit plan to take to support this unit goal?

Recruit qualified students into the program using provided graduate assistantships

Question: Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?
CME Civil and Mechanical Engineering

- enrolled graduate students - establish baseline and show sustainable increase
- graduate theses - establish baseline and show sustainable increase
- number of joint research publications and presentations (Goal 3) with undergraduate (Goal 6) and graduate students - establish baseline and show sustainable increase

**Question:** Resources - Are you able to accomplish this unit goal with your current resources?

No

**Question:** Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?

- funding for 5 CE graduate assistants and 5 ME graduate assistants
- improved admission process: creation of an online system for submitting documentation and streamlined evaluation process

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

- Reputation of IPFW engineering programs as compared to engineering programs at Purdue WL could hamper recruitment of qualified students
- Current graduate admission constraints and procedures at IPFW that hinder recruitment of international students

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #11: Goal Five - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:**
1. Comment on the specificity of the goal:

More context/explanation is needed. Is the goal to make CME independent?

2. Comment on the goal's measures:

Measures need to be revised so that they more clearly relate to the goal.

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

We did not understand goal so unable to comment.

4. Comment on the goal’s relevance:

Same.

5. Comment on the timeline of the goal:

“Ongoing”

Possible opportunities for collaboration or suggestions for addressing a gap:

ECE?

**Question:** Unit Goal - What is your unit goal?

Ensure the engineering department successfully transitions to two departments, viz., Civil and Mechanical Engineering and Electrical and Computer Engineering

**Question:** IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.

Create a stronger university through improving the support of stakeholders and the quality and efficiency of the organization

IV.B. Process Goals: Efficiency

IV.B.2. Decentralize resource distribution and control to lowest level, mission focused administrative units.

**Question:** Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

High

**Question:** Actions - What action(s) does your unit plan to take to support this unit goal?

Work with ECE department and college and university leadership to ensure successful transition
**Question:** Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

Improvement of efficiency metrics such as net revenue/grad and net revenue/credit hour - establish baseline and show a sustainable increase and improvement

**Question:** Resources - Are you able to accomplish this unit goal with your current resources?

No

**Question:** Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?

- budget (estimated at $10,000) for expenses related to the restructuring
- office space for LTL’s associated with the civil and mechanical engineering programs
- fair and adequate compensation for department leadership

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

N/A

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #12: Goal Six - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:**
1. Comment on the specificity of the goal:

More clarification would be helpful.

2. Comment on the goal's measures:

Can you explain what you mean by “sustainable increase”? 

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

Monetary resources will be needed (report specifies $6000/year)

4. Comment on the goal’s relevance:

Very relevant.

5. Comment on the timeline of the goal:

“Ongoing”

Possible opportunities for collaboration or suggestions for addressing a gap:

**Question:** Unit Goal - What is your unit goal?

Enhance and expand the engineering department’s Curriculum-embedded Undergraduate Research Experience (CEM-URE).

**Question:** IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.
Foster student success

I.B.1. Increase opportunities for engaged and experiential learning including service learning and internship programs.

I.E. Process Goal: Develop signature programs
I.E.1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
I.E.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.
I.E.3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
I.E.4. Promote majors and programs with strong job placement opportunities in the region and beyond.

Promote the creation, integration, and application of knowledge

II.B. Promote mentoring relationships between faculty and students engaged in creation, integration, and application of knowledge.

Serve as a regional intellectual, cultural, and economic hub for global competitiveness

III.A. Expand meaningful collaborations and research opportunities with regional, national, and global partners.

**Question:** Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

Medium

**Question:** Actions - What action(s) does your unit plan to take to support this unit goal?

Providing adequate support for the projects, faculty, and students.

**Question:** Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

- number of students participating in the program - establish baseline and show sustainable increase
- number of joint publications and presentations (see Goal 3) with undergraduate students - establish baseline and show sustainable increase

**Question:** Resources - Are you able to accomplish this unit goal with your current resources?

No

**Question:** Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?
Question: Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

Recruiting qualified and interested students

Question: Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

Criterion: #13: Goal Seven - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

Task Force: 1. Comment on the specificity of the goal:

Very specific.

2. Comment on the goal's measures:

Need clarification: how are these measures related to goal?

3. Comment on the unit's ability to achieve the goal (include a consideration of the departmental profile and budget data):

Monetary resources will be needed (report specifies $6000/year)

4. Comment on the goal's relevance:

Unclear. More information would be helpful here to explain importance of goal.

5. Comment on the timeline of the goal:

"Ongoing"

Possible opportunities for collaboration or suggestions for addressing a gap:

Would other engineering departments benefit? Would they be interested in being involved?

Question: Unit Goal - What is your unit goal?

Continued and enhanced support of the Modeling and Simulation Lab, a high-tech computing facility for developing sophisticated models and simulations for a wide-spectrum of engineering problems.

Question: IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.
Foster student success

I.E. Process Goal: Develop signature programs
I.E.1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
I.E.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.
I.E.3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
I.E.4. Promote majors and programs with strong job placement opportunities in the region and beyond.

Promote the creation, integration, and application of knowledge

II.A. Project future regional, national, and international demand for research and collaboration.
II.B. Promote mentoring relationships between faculty and students engaged in creation, integration, and application of knowledge.
II.C. Promote the 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

III.A. Expand meaningful collaborations and research opportunities with regional, national, and global partners.

Question: Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

Medium

Question: Actions - What action(s) does your unit plan to take to support this unit goal?

Make use of the lab through learning and scholarship activities including research projects, technical assistance projects, senior design projects, etc.

Question: Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

Multiple metrics including

- publications and presentations
- TAP, TAA, and other industry-academic research projects
- research and teaching proposals submitted and funded

Question: Resources - Are you able to accomplish this unit goal with your current resources?

No

Question:
Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?

funding of $6000 per year for software and hardware maintenance and upgrades

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

N/A

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

**Criterion:** #14: Goal Eight - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

**Task Force:** 1. Comment on the specificity of the goal:

Not specific. The goal is very broad as written.

2. Comment on the goal’s measures:

Clarify: By ‘establish,’ do you mean ‘start’ or do you mean ‘identify’?

3. Comment on the unit’s ability to achieve the goal (include a consideration of the departmental profile and budget data):

Seems to require an additional hire

4. Comment on the goal’s relevance:

Very relevant: job trainers will like it

5. Comment on the timeline of the goal:

“Ongoing”

Possible opportunities for collaboration or suggestions for addressing a gap:

**Question:** Unit Goal - What is your unit goal?

Based on studies by the Northeast Indiana Regional Partnership, expand educational, applied research, and project activities to support the **advanced manufacturing sector** in Northeast Indiana.

**Question:** IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.
Foster student success

I.C. Process Goals: Increase interdisciplinary and graduate programs and internationalization of the curriculum.
I.C.1 Develop and promote interdisciplinary programs where there are sufficient university assets available and anticipated employment needs.

Serve as a regional intellectual, cultural, and economic hub for global competitiveness

I.E. Process Goal: Develop signature programs
I.E.1. Identify and develop signature programs that respond to regional needs, build on faculty expertise, and uniquely distinguish IPFW from other institutions.
I.E.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.
I.E.3. Build and strengthen relationships with regional partners to increase research and scholarly collaborations in signature programs.
I.E.4. Promote majors and programs with strong job placement opportunities in the region and beyond.

Promote the Creation, Integration and Application of Knowledge

II.A. Project future regional, national, and international demand for research and collaboration.

Question: Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.
Medium

Question: Actions - What action(s) does your unit plan to take to support this unit goal?
Develop a curriculum area, and eventually an option, in advanced manufacturing
Provide continuing education courses, workshops, seminars and/or training in this area

Question: Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?
- number of students participating in the advanced manufacturing program - establish baseline of approximately 10 students and show sustainable growth to around 30 students
- regional collaborations associated with the advanced manufacturing program - establish a roster of five (5) committed partners

Question: Resources - Are you able to accomplish this unit goal with your current resources?
No

Question: Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?
Question: Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

N/A

Question: Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

Criterion: #15: Goal Nine - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

Task Force: 1. Comment on the specificity of the goal:

Not specific, need to clarify what they are trying to achieve.

2. Comment on the goal's measures:

First two listed: reasonable once baselines are establish.

Third: Won't it be challenging to obtain reliable data?

3. Comment on the unit's ability to achieve the goal (include a consideration of the departmental profile and budget data):

Requests considerable resources, but these require additional justification to explain why they are necessary for the achievement of this goal.

4. Comment on the goal's relevance:

STEM and Student Success—both very relevant, vis-à-vis Plan 2020.

5. Comment on the timeline of the goal:

“Ongoing”

Possible opportunities for collaboration or suggestions for addressing a gap:

Question: Unit Goal - What is your unit goal?

Foster a community of learning, leadership opportunities, technical competitions, and a supportive environment for students, assisted by vibrant and engaged student organizations such as the American Society of Mechanical Engineers, the American Society of Civil Engineers, and the Society of Women Engineers.
**IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply.**

If it does not align, you may write "NA" or clarify.

Foster Student Success


I.B.1. Increase opportunities for engaged and experiential learning including service learning and internship programs.

I.B.5. Transform the concept of the college classroom and the delivery of education.

I.E. Process Goal: Develop signature programs

I.E.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.

**Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.**

Medium

**Actions - What action(s) does your unit plan to take to support this unit goal?**

Provide support, space, mentoring, and other resources for the activities

**Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?**

- number of students participating in these activities - establish baseline number of students and show steady, sustainable growth

- number of activities - establish baseline number of activities and show steady, sustainable growth

- retention, graduation, and employment data for students who participate in these activities - establish a baseline and show steady, sustainable improvement

**Resources - Are you able to accomplish this unit goal with your current resources?**

No
Question: Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?

- dedicated meeting space for student societies
- dedicated, well-equipped space for students competitions including a hot spot (welding) area
- technical support staff with abilities and desire to assist with such projects and activities

Question: Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

Recruiting students to participate in these activities.

Question: Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?

ongoing, continuous improvement goal

Criterion: #16: Goal Ten - In this criterion, you will identify your unit goals and tell us how they align to Plan 2020, how they are measured, and what resources you need to meet them.

Question: Unit Goal - What is your unit goal?

Question: IPFW Goal - What 2020 goal(s) does this unit goal align with? List as many as apply. If it does not align, you may write “NA” or clarify.

Question: Priority Level - Is the unit goal high, medium, or low priority? Limit your high-priority unit goals to 3 to 5.

Question: Actions - What action(s) does your unit plan to take to support this unit goal?

Question: Metrics - With what metrics will you assess progress toward accomplishing this unit goal on an annual basis?

Question: Resources - Are you able to accomplish this unit goal with your current resources?
**Question:** Needed Resources - If you don’t have enough resources, what additional resources do you need to accomplish this unit goal?

**Question:** Challenges - What challenges, other than financial resources, might affect your progress toward accomplishing this unit goal?

**Question:** Timeline - If achieving this unit goal will take longer than one year, what is your timeline for implementing and accomplishing it?