PURDUE UNIVERSITY BOARD OF TRUSTEES
EXECUTIVE SUMMARY DEGREE PROPOSAL TEMPLATE

PLEASE NOTE THAT THE FULL PROPOSAL CHECKLIST WILL NEED TO BE COMPLETED FOR THE INDIANA COMMISSION ON HIGHER EDUCATION (see https://in.gov/che/files/checklist_of_criteria_web.pdf)
Both this template and the full checklist document are submitted to the Purdue Board of Trustees.
When this form is complete, please save and return to weiderhaft@purdue.edu with tables as separate attachment.

DATE: **January 4, 2022**
TO: Board of Trustees
FROM: Thomas Hacker, Primary Contact, (765) 496-1072; tjhacker@purdue.edu
CC: Julia Rayz, Secondary Contact, (765) 494-9525; jtaylor1@purdue.edu
SUBJECT: Doctor of Philosophy in Computer and Information Technology

CAMPUS OFFERING DEGREE: West Lafayette

ANTICIPATED START DATE: Fall 2022

1. IS THE DEGREE RESIDENTIAL, HYBRID, OR ONLINE?

Residential

2. BRIEF OVERVIEW OF DEGREE/WHY IS THE DEGREE NEEDED?

This proposal aims to establish a West Lafayette-based, Purdue PhD program in Computer and Information Technology within Computer and Information Technology Department. This program will support the Department and Polytechnic Institute goals to increase domestic and international diverse graduate student populations while providing expanded opportunities for research, both within the academic community and with external research partners. The program serves several critical needs to include supporting and expanding the research mission of Purdue by increasing the Department of Computer and Information Technology profile both nationally and internationally, enhancing high quality faculty recruitment, and further promoting an environment of academic investigation across all student levels at the university.

The general focus of this program involves the study of all aspects of Computer and Information Technology (IT). Our undergraduate and MS programs are built to educate and graduate IT professionals that can achieve the goals of IT curriculum, as described by the Association of Computing Machinery (ACM). The PhD program is designed to continue their education to the highest level. Program approval will enhance opportunities for the Department's graduates and further raise the status and profile of the program, already nationally and internationally recognized at the undergraduate level. This, in turn, will improve competitiveness for external funding and recruitment of high-quality faculty and students within the global academic market.

3. BRIEF EVIDENCE OF FEDERAL, STATE, AND REGIONAL LABOR MARKET NEED

The overall need for Computer and Information Technology graduates is projected to grow much faster than average. In particular, occupations that design new approaches to technology and find innovative uses for existing technology, which would require at least a Master's degree, are projected by US Bureau of Labor Statistics to grow by 15% by 2029. All occupations, total, are projected to grow by 4%. In particular, the need is projected in data-related services and cybersecurity, both of which are our foci area (see Appendix A).

These projections are consistent with other reports that the need for Information Technology in the post-COVID world will only increase, in the applications to healthcare, business, communication, and many others, as many learned to rely on technology.

According to datausa.io, in 2019 there were less than 27,000 degrees awarded in Information Technology. The Occupational Outlook Handbook projects over 530,000 new jobs to be added by 2029 in Computer and Information Technology. While the breakdown of the highest degree earned is not provided in either of these data points, the number of graduates would need to be doubled to fill these jobs. This program proposes to partially address this need.

4. COSTS

A. Tuition and Fees—In-state and out-of-state
   a. In-state: $9,990 per year
   b. Out-of-state: $28,594 per year

B. Financial Projection Table

Table 1

Program Financial Projection

Financial Office Table

Purdue WL Campus

PHD Degree in Computer and Information Technology

	Year #1 FY 2022	Year #2 FY 2023	Year #3 FY 2024	Year #4 FY 2025	Year #5 FY 2026
I. ENROLLMENT					
1. Program Credit Hours Generated (FTE * 30 for BS & FTE * 24 for masters/graduate)					
a. Existing Courses	312	552	744	912	1032
b. New Courses	48	48	48	48	48
Total	**360**	**600**	**792**	**960**	**1080**
2. Full-Time Equivalents (FTE)					
a. Full-Time FTEs	15	25	33	40	45
b. Part-Time FTEs					
Total Full/Part-Time FTE	**15**	**25**	**35**	**45**	**50**
c. On-Campus Transfer FTEs	5	2	0	0	0
d. New-to-Campus FTEs	10	23	35	45	50
Total On/New-to-Campus FTE	**15**	**25**	**35**	**45**	**50**
3. Program Majors - Headcount					
a. Full-Time Students	15	25	35	45	50
b. Part-Time Students					
Total Full/Part-Time HC	**15**	**25**	**35**	**45**	**50**
c. In-State	3	5	8	12	15
d. Out-of-State	12	20	27	33	35
Total In/Out of State HC	**15**	**25**	**35**	**45**	**50**

Notes

For both undergraduate and graduate degree enrollment projections, please carefully consider competitive degree enrollments and how the Purdue program will be marketed in the calculation of enrollment and degree completion projections.

^ Enter footnotes in the last section of this table for to provide additional details (required for 'other' categories) and projection and/or calculation logic.

	Year #1 FY 2022	Year #2 FY 2023	Year #3 FY 2024	Year #4 FY 2025	Year #5 FY 2026
II. INCREMENTAL REVENUE					
1. Projected # of *New* Students [1]	10	23	35	45	50
2. General Tuition & Fees [2]					
a. General Service	9,206	9,206	9,206	9,206	9,206
b. Technology Fee	188	188	188	188	188
c. Repair & Rehabilitation Fee	322	322	322	322	322
d. Student Fitness & Wellness Fee	234	234	234	234	234
e. Student Activity Fee	40	40	40	40	40
Total General Service T&F	**$ 9,990**	**$ 9,990**	**$ 9,990**	**$ 9,990**	**$ 9,990**
2. Additional Fees - *if applicable* [3]					
a. Differential Fees	572	572	572	572	572
b. Course Fees					
c. Other Fees					
Total Additional Fees	**$ 572**	**$ 572**	**$ 572**	**$ 572**	**$ 572**
Total Incremental Revenue	**$ 105,620**	**$ 242,926**	**$ 369,670**	**$ 475,290**	**$ 528,100**

Notes

(1) New Students represents the anticipated number of *new* students to campus; transfers or existing students are ***not*** to be included. The Total is set equal to the 'New-to-Campus FTEs' completed in the Enrollment section (I2d).

(2) T&F must match approved Bursar rates (refer to Bursar website). The calculation should be based on the ***Full-Time/Resident*** Student T&F. If the new degree program is primarily Part-Time students, then the T&F needs to be adjusted appropriately for this type of expected enrollment.

(3) If additional fees are applicable, then each fee must be individually listed above and match approved Bursar rates (refer to Bursar website).

Bursar T&F Website: https://www.purdue.edu/bursar/tuition/index.html

^ Enter footnotes in the last section of this table for to provide additional details (required for 'other' categories) and projection and/or calculation logic.

	Year #1 FY 2022		Year #2 FY 2023		Year #3 FY 2024		Year #4 FY 2025		Year #5 FY 2026	
III. EXPENDITURES										
1. Salary and Wages	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**
a. Faculty	1.00	95,000	1.00	95,000	2.00	190,000	2.00	190,000	3.00	285,000
b. Limited Term Lecturers										
c. Graduate Students			1.00	25,000	2.00	50,000	3.00	75,000	3.00	75,000
d. Other (Post Doc/Staff)										
Total S&W	**1.00**	**$ 95,000**	**2.00**	**$ 120,000**	**4.00**	**$ 240,000**	**5.00**	**$ 265,000**	**6.00**	**$ 360,000**

2. Fringes and Fee Remissions									
a. Fringe Benefits	1.00	27,550	1.00	27,550	2.00	55,100	2.00	55,100	3.00	82,650
b. Fee Remissions			1	9,989	2	19,979	3	29,968	3	29,968
Total FB & FR		**$ 27,550**		**$ 37,539**		**$ 75,079**		**$ 85,068**		**$ 112,618**
3. Supplies and Expenses									
a. General Supplies & Expenses		3,000		2,500		2,500		2,500		2,500
b. Minor Equipment										
c. Recruiting & Marketing										
d. Travel & Entertainment		5,000		5,000		5,000		5,000		5,000
e. Other (Library, subscriptions, IT)										
Total Supplies and Expense		**$ 8,000**		**$ 7,500**		**$ 7,500**		**$ 7,500**		**$ 7,500**
4. Capital									
a. Capitalized Equipment										
b. Repair & Replacement										
Total Equipment		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**
Total Expenditures		**$ 130,550**		**$ 165,039**		**$ 322,579**		**$ 357,568**		**$ 480,118**
Projected Program Surplus/(Deficit)*		**$ (24,930)**		**$ 77,887**		**$ 47,091**		**$ 117,722**		**$ 47,982**

C. Program Review and Expenditure Summary

Table 2

Program Revenue and Expenditure Summary

Board of Trustees Table

Purdue WL Campus

PHD Degree in Computer and Information Technology

	Year #1 FY 2022	Year #2 FY 2023	Year #3 FY 2024	Year #4 FY 2025	Year #5 FY 2026
Total Incremental Revenue*	$ 105,620	$ 242,926	$ 369,670	$ 475,290	$ 528,100
Total Expenditures	$ 130,550	$ 165,039	$ 322,579	$ 357,568	$ 480,118
Projected Program Surplus/(Deficit)**	**$ (24,930)**	**$ 77,887**	**$ 47,091**	**$ 117,722**	**$ 47,982**

D. Enrollment Projection

Table 3

Projected Headcount and FTE Enrollment and Degrees Conferred

Board of Trustees & ICHE Table

Purdue WL Campus

PHD Degree in Computer and Information Technology

	Year #1 FY 2022	Year # 2 FY 2023	Year # 3 FY 2024	Year # 4 FY 2025	Year # 5 FY 2026
Enrollment Projections (Headcount)	**15**	**25**	**35**	**45**	**50**
Enrollment Projections (FTE)	**15**	**25**	**35**	**45**	**50**
Degree Completions Projection		**2**	**2**	**5**	**10**

5. LIST OF SIMILAR DEGREES IN THE PURDUE SYSTEM AND DISTINCTIVE ELEMENTS FOR THIS DEGREE

Within Purdue, there are several doctoral programs in adjacent fields, such as Computer Science and Electrical and Computer Engineering. The proposed PhD program in Computer and Information Technology is not expected to overlap with these doctoral programs, reflecting the maturation of an existing department-based graduate program at the master's degree level and the evolution of a college-based PhD degree program in Technology.

6. COMPETITIVE DEGREES – BRIEF SUMMARY

A large number of universities offer degrees in Information Technology. Four-year degrees cover domains of Information Management, Integrated Systems Technologies, Platform Technologies, System Paradigms, User Experience Design, Cybersecurity Principles, Global Professional Practice, Networking, Software Fundamentals, and Web and Mobile Systems (IT2017). At the time of pre-proposal preparation, there were only seven doctoral programs in R1 institutions in Information Science or Systems (UC Berkeley, Temple University, Oklahoma State University, CMU, Cornell, University of Illinois Chicago, NYU at Albany) and one in Information Technology (George Mason University). This number increased since then, however, the need for graduates with advanced degrees in Information Technology is rapidly growing.

Recommended Approval:

1/5/22

Jay T. Akridge — Date
Provost and Executive Vice President for
Academic Affairs and Diversity

Approved:

1/13/22

Mitchell E. Daniels, Jr. — Date
President