BOARD APPROVED
DECEMBER 8, 2023

Cindy Ream
Corporate Secretary

PURDUE UNIVERSITY BOARD OF TRUSTEES
EXECUTIVE SUMMARY DEGREE PROPOSAL TEMPLATE

PLEASE NOTE THAT THE FULL ACADEMIC DEGREE PROGRAM SUBMISSION DOCUMENT WILL NEED TO BE COMPLETED FOR THE INDIANA COMMISSION ON HIGHER EDUCATION (see https://www.in.gov/che/academic-affairs/academic-degree-programs/). Both this template and the Academic Degree Program Submission are submitted to the Purdue Board of Trustees. When this form is complete, please save and return to sdunk@purdue.edu with tables as separate attachments.

DATE: October 23, 2023
TO: Board of Trustees
FROM: Jim Bullard, jim.bullard@purdue.edu; Mohammad Rahmin, mrahman@purdue.edu
CC:
SUBJECT: Master of Business and Technology

CAMPUS OFFERING DEGREE: Purdue West Lafayette

ANTICIPATED START DATE: Fall, 2024

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

IF ONLINE, RATIONALE FOR GOING THROUGH SPECIFIC PURDUE CAMPUS—PWL, PFW, PNW, PG

This proposed graduate degree will be offered in a residential format through the PWL campus and will be supported administratively by the Mitchell E. Daniels, Jr. School of Business.

Proposed Degree: Master of Business and Technology
Proposed Concentrations: Robotics and Automation, Technology Commercialization, Computational Finance, AI Innovations

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

In the current era, technology is deeply intertwined with business operations. Traditional business activities, such as management, product development, and go-to-market strategies, now demand a deep understanding of technology, driven by developments like digital transformation trends, automation, and artificial intelligence (AI). Decision-makers need to be adept at evaluating technological investments, understanding the implications of new technology trends, and predicting potential challenges and opportunities they might bring. They need to understand the ethical and regulatory implications of technology deployments since consumer interactions are increasingly digital. Moreover, as businesses expand globally, they require a technological foundation to operate seamlessly across borders. Consequently, businesses require professionals and leaders who understand both business and technology to drive innovation and stay competitive.

According to Deloitte's 2023 Global Technology Leadership Study, today's technology leaders understand their role has changed. It's not enough to be an expert or specialist or independent operator in a silo. Instead, technology leadership is now a team sport, that places an emphasis on the abilities of leaders to collaborate, communicate, coordinate, and co-create.

While many programs focus solely on business or technology, there's a distinct gap in the market for graduate programs that cohesively integrate both. Thus, there is a market for such programs that ensure graduates are well-rounded and versatile in their professional capabilities. Moreover, there is a void in the market for graduate programs that train fresh STEM college graduates to take technology innovations to market.

The introduction of a master's program focusing on both business and technology is both timely and imperative. Such a program is poised to produce a new cadre of leaders, proficient in navigating the complexities of the modern business landscape, marked by rapid technological evolutions. Building on Purdue University's longstanding reputation in both business and technological research and education, MBT will offer a fusion of

the two, ensuring students receive top-tier education informed by cutting-edge advancements. In addition, with Purdue's proven track record in fostering entrepreneurship—evidenced by its many successful alumni startups—students will be encouraged and equipped to innovate, potentially pioneering technology-driven business models and ventures.

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

A Lightcast (2023) study was utilized to assess labor market demand. There are over 420,000 unique job postings, with over 30,000 employers competing for candidates with titles such as Project Manager, IT Manager/Director, IT Project Manager, Cyber/Information Security engineer / Analyst, Systems Analyst, Product Owner, Product Manager, and E-Commerce Analyst. The median posting duration for jobs is 28 days, and there are 2+ jobs for each candidate in the market, with median wages up almost 34%. Top employers for these candidates include, but are not limited to Amazon, Deloitte, Elevance Health, Northrup Grumman, Boeing, and Humana. In Indiana, there were 56,560 postings among 5,358 employers competing for the same talent, and positions are posted for an average of 30 days. Top employers were Elevance Health, Rolls Royce, Deloitte, Eli Lilly, Purdue University and Indiana University.

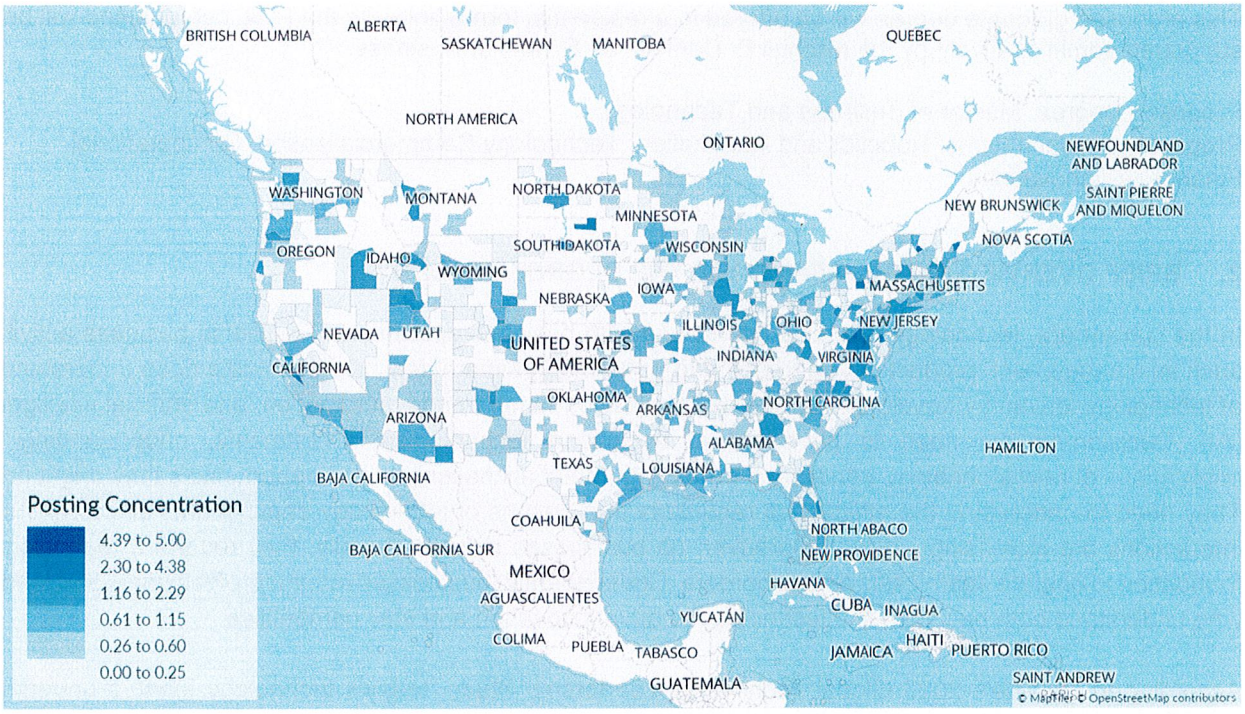

Figure 1. Job postings by location concentration and company (Lightcast, 2023). The darker blue colors indicate high regions of activity for candidates with skills in business and technology.

4. COSTS

A. Tuition and Fees—In-state, out-of-state, and international
   a. In-state: $850/credit hour
   b. Out-of-state: $1,000/credit hour
   c. International: $1,600/credit hour

B. Financial Projection Table
   See Excel File Tab 1

C. Program Review and Expenditure Summary
See Excel File Tab 2

D. Enrollment Projection
See Excel File Tab 3

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

At the graduate level, Purdue University has highly ranked and successful programs in Technology Leadership and Innovation, Computer and IT (Business Analytics), Engineering (MSE/MS), and the Daniels School has a One-Year MBA for STEM Professionals, none of these programs directly compete with the new Master of Business and Technology, nor produce graduates competing for similar jobs at similar levels. The curriculum for this program debuts five newly designed classes in areas not previously offered including Computational Business Intelligence, DevOps and Technology Solutions, Emerging Technologies and Business Models, and Technology Governance and Regulations. Students will have the benefit of industry mentors and corporate internships to further develop skills and apply knowledge learned in the classroom. Students will have the opportunity to round out their learning experience with a wide range of elective courses and four available concentrations so that they can customize their degree to meet their personal and professional learning goals.

The proposed MBT integrates the domains of business and technology, crafting a curriculum tailored for the digital age. The purpose is to nurture and develop the future vanguards of the digital economy, empowering them with the knowledge and skills to lead technology-driven teams and organizations as well as bring innovative technology-driven business solutions to the market with vision and efficacy. Graduates of this program won't just chase opportunities; they will create them, setting new standards for excellence in the nexus of business and technology.

6. COMPETITIVE DEGREES – BRIEF SUMMARY

Current universities that have similar programs are Northwestern University, Georgia Tech, NYU, Illinois, UT-Dallas, and Carnegie Mellon. Existing programs are either technology degrees with a business focus, or MBAs with a technology track. They exist in all modalities of residential, hybrid and online.

In the state of Indiana, there are 2 programs that are similar to the MBT. Indiana State University offers an online MS in Technology Management This program builds upon current successful engineering or technical professionals to become successful managers to improve their ability to communicate, build teams, inspire others, and make data-driven decisions. It is more of a generalist program with less analytical rigor and without any concentrations available. The proposed residential MBT curriculum provides rich specialization within the high-tech industry, such as robotics and AI.

Indiana University offers a residential Master of Science in Information Systems. The MSIS degree primarily delivers a traditional pedagogy focused on IT planning, implementation, and management. As such, the program is primarily focused on what is current and not what is possible in the future of technology and business.

MBT will produce talents skilled at evaluating technological investments, understanding the implications of new technology trends, and predicting potential challenges and opportunities they might bring.

Recommended Approval:

11/17/2023
Date

Patrick J. Wolfe, Ph.D.
Provost and Executive Vice President for Academic Affairs and Diversity
Miller Family Professor of Statistics and Computer Science

Approved:

11/27/2023
Date

Mung Chiang, Ph.D.
President
Roscoe H. George Distinguished Professor of Electrical and Computer Engineering

Table 1
Program Financial Projection
Financial Office Table
Purdue West Lafayette
MS Business and Technology

	Year #1 FY 2025	Year #2 FY 2026	Year #3 FY 2027	Year #4 FY 2028	Year #5 FY 2029
I. ENROLLMENT					
1. Program Credit Hours Generated (FTE * 30 for BS & FTE * 24 for masters/graduate)**. We used 36 credit hours per year for this calculation [15 Fall/Spring, 6 Summer]**					
a. Existing Courses	675	1080	1350	1620	1620
b. New Courses	225	360	450	540	540
Total	**900**	**1440**	**1800**	**2160**	**2160**
2. Full-Time Equivalents (FTE)					
a. Full-Time FTEs	25	40	50	60	60
b. Part-Time FTEs	0	0	0	0	0
Total Full/Part-Time FTE	**25**	**40**	**50**	**60**	**60**
c. On-Campus Transfer FTEs	0	0	0	0	0
d. New-to-Campus FTEs	25	40	50	60	60
Total On/New-to-Campus FTE	**25**	**40**	**50**	**60**	**60**
3. Program Majors - Headcount					
a. Full-Time Students	0	0	0	0	0
b. Part-Time Students	25	40	50	60	60
Total Full/Part-Time HC	**25**	**40**	**50**	**60**	**60**
c. In-State	6	10	13	15	15
d. Out-of-State	19	30	37	45	45
Total In/Out of State HC	**25**	**40**	**50**	**60**	**60**

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.

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		Year #1 FY 2025	Year #2 FY 2026	Year #3 FY 2027	Year #4 FY 2028	Year #5 FY 2029
II. INCREMENTAL REVENUE						
1. Projected # of *New* Students [1]		**25**	**40**	**50**	**60**	**60**
Resident		6	10	13	15	15
Non-Resident		13	20	25	30	30
International		6	10	13	15	15
2. Prof. Masters Tuition & Fees [2]	Per Credit Hour Amounts (if applicable)					
a. Professional Masters Program Fee						
a-1. Resident Tuition	$850.00	$ 191,250	$ 306,000	$ 382,500	$ 459,000	$ 459,000
a-2. Non-Resident Tutition	$1,000.00	$ 450,000	$ 720,000	$ 900,000	$ 1,080,000	$ 1,080,000
a-3. International Tutition	$1,600.00	$ 360,000	$ 576,000	$ 720,000	$ 864,000	$ 864,000
b. Purdue Infrastructure Fee	$18.80	$ 16,920	$ 27,072	$ 33,840	$ 40,608	$ 40,608
c. Activity Fee		$ 7,313	$ 11,700	$ 14,625	$ 17,550	$ 17,550
d. Fitness and Wellness		$ 1,250	$ 2,000	$ 2,500	$ 3,000	$ 3,000
Total General Service T&F		**$ 1,026,733**	**$ 1,642,772**	**$ 2,053,465**	**$ 2,464,158**	**$ 2,464,158**
2. Additional Fees - *if applicable* [3]						
a. Differential Fees		-	-	-	-	-
b. Course Fees		-	-	-	-	-
c. Other Fees		-	-	-	-	-
Total Additional Fees		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Total Incremental Revenue		**$ 1,026,733**	**$ 1,642,772**	**$ 2,053,465**	**$ 2,464,158**	**$ 2,464,158**

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

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MS Business and Technology

	Year #1 FY 2025		Year #2 FY 2026		Year #3 FY 2027		Year #4 FY 2028		Year #5 FY 2029	
III. EXPENDITURES										
1. Salary and Wages	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**	**FTE**	**Cost**
a. Faculty		$ 252,329		307,849		330,057		352,265		352,265
b. Limited Term Lecturers		-		-		-		-		-
c. Graduate Students		-		-						-
d. Other (Post Doc/Staff)		-		-		-		-		-
Total S&W	**0.00**	**$ 252,329**	**0.00**	**$ 307,849**	**0.00**	**$ 330,057**	**0.00**	**$ 352,265**	**0.00**	**$ 352,265**
2. Fringes and Fee Remissions										
a. Fringe Benefits		63,082		76,962		82,514		88,066		88,066
b. Fee Remissions		-		-		-		-		-
Total FB & FR		**$ 63,082**		**$ 76,962**		**$ 82,514**		**$ 88,066**		**$ 88,066**
3. Supplies and Expenses										
a. Scholarships		125,000		200,000		250,000		300,000		300,000
b. Minor Equipment		-		-		-		-		-
c. Recruiting, Marketing, & Student Support)		477,411		448,458		547,823		605,187		605,187
d. Travel & Entertainment		-		-		-		-		-
e. Other (Library, subscriptions, IT)		-		-		-		-		-
Total Supplies and Expense		**$ 602,411**		**$ 648,458**		**$ 797,823**		**$ 905,187**		**$ 905,187**
4. Capital										
a. Capitalized Equipment										
b. Repair & Replacement										
Total Equipment		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**
Total Expenditures		**$ 917,823**		**$ 1,033,270**		**$ 1,210,395**		**$ 1,345,519**		**$ 1,345,519**
Projected Program Surplus/(Deficit)*		**$ 108,910**		**$ 609,502**		**$ 843,070**		**$ 1,118,639**		**$ 1,118,639**

***** For the CHE proposal, only identify the nature of the support. It is not necessary to note dollars in the report; however, it should be stated that there is sufficient revenue to cover expenses. Projected surplus/deficit is an aid to identify potential new University revenue, anticipated program costs, and degree substantiality. This does not represent any type of funding

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MS Business and Technology

FOOTNOTES

I. Enrollment Details

1. Program Credit Hours Generated	36 CH to graduate. 24 Core (3 new courses); 12 Elective
2. Full-Time Equivalents (FTE)	All Students will be full time
3. Program Majors - Headcount	All students are program majors.

II. Incremental Revenue Details

1. Projected # of New Students	
2. General Tuition & Fees	Total average tuition is $1112.50 per credit hour inclusive of all fees ($850/1000,1575 IS/OOS/INT; 25%/50%/25% split).
3. Additional Fees - if applicable	None

III. Expenditure Details

1. Salary and Wages	Based on average of major faculty per course for core. Elective is $345/CH (residental average from FY23)
2. Fringes and Fee Remissions	Estimatged at 20% of S&W.
3. Supplies and Expenses	Includes program admin, marketing, recruiting, and student support.
4. Capital	No additional capital is needed.