WICHITA STATE UNIVERSITY

Program Review Self-Study Template

Academic unit: Institute for Interdisciplinary Innovation

College: Institute for Interdisciplinary Innovation

Date of last review N/A

Date of last accreditation report (if relevant) N/A

List all degrees described in this report (add lines as necessary)

Degree: Masters of Innovation Design CIP* code: 50.0404

Degree: _____ CIP code: _____

Degree: _____ CIP code: _____

*To look up, go to: Classification of Instructional Programs Website, http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55

Certificate (s): Leadership Certificate

Faculty of the academic unit (add lines as necessary)

Name	Signature
Jeremy Patterson	

Submitted by: Dr. Jeremy Patterson, Director Date _____
(name and title)

In yellow highlighted areas, data will be provided

1. Departmental purpose and relationship to the University mission (refer to instructions in the WSU Program Review document for more information on completing this section).

a. University Mission:

The mission of Wichita State University is to be an essential educational, cultural, and economic driver for Kansas and the greater public good.

b. Program Mission (if more than one program, list each mission):

The mission of the Institute for Interdisciplinary Innovation is to 'identify various educational pathways to enhance the campus culture of innovation through collaboration'

The mission of the innovation design program is 'to provide a collaborative learn-work-play environment that offers creative minds the opportunities and resources for idea generation, problem solving, honing technical and leadership skills thereby channeling energy and focus towards proffering solutions to societal and global problems today and in the future'.

c. The role of the program (s) and relationship to the University mission: Explain in 1-2 concise paragraphs.

The university's mission is to be '…as essential educational, cultural and economic driver for Kansas and the greater public good.' Similarly, the Institute for Interdisciplinary Innovation provides both graduate and undergraduate students a quality curriculum that values both theory and practice.

Development of the Masters of Innovation Design program emerged as an initiative to directly address these goals: applied experiential learning and research; interdisciplinary studies; capitalize on emerging trends, accelerate discovery, creation, and transfer of new knowledge; and empower students to create a culture and experience that meets their needs. The process of innovation and design are taught and students learn to recognize opportunities. Our faculty and students have a presence and impact within many communities across the metropolitan area, Kansas, the region, the US, and globally. This is evidenced by the Institute's industry partnerships, faculty research and venture work, and our students' (and alumni) job placements and business start-up activity.

d. Has the mission of the Program (s) changed since last review? ☐ Yes ☒ No

i. If yes, describe in 1-2 concise paragraphs. If no, is there a need to change?

e. Provide an overall description of your program (s) including a list of the measurable goals and objectives of the program (s) (programmatic). Have they changed since the last review?

☐ Yes ☒ No

If yes, describe the changes in a concise manner.

The III is focused on outcomes assessment, which include both program-level intended outcomes and student learner outcomes with direct and indirect measures.

Innovation Design is a multifaceted area of study involving partnerships between all of WSU's degree granting Colleges (Fine Arts, Education, Engineering, Liberal Arts & Sciences, Business, Health Professions, and Honors). Our students come from various disciplines, including engineering, business, art, media design and more. Some are very strong academically; some have extensive backgrounds in industry; some have brilliant ideas; but all have passion for creativity and bringing new ideas to the marketplace. The Innovation Design program is dependent on the integration of interdisciplinary curricula across the university, synthesizing various academic disciplines providing students a competitive edge in today's rapidly evolving marketplace. Students are taught to recognize and seize opportunities. All stakeholders benefit from the success of the programs including students, faculty, WSU, and our community. Students enroll to be part of a likeminded cohort that shares creative tinkering and networking experiences. The experiment-driven active learning approach creates structure and process to the chaos that characterizes the early stages of creative pursuits. The curriculum currently has four required courses and the remainder of the 30 credit hour (32 for Thesis) program is individualized to assist the student develop as an innovator in their specified area. Students can work with faculty they have identified that can further develop their strengths or weaknesses. They are encouraged to take advantage of the expertise and resources available at WSU to develop ideas and work to bring them to market. They can also work with one of the many research clusters on campus that have intellectual property based on faculty research. Faculty has the opportunity to tap the Innovation Design talent to help bring their research to a stage that can be commercialized. Each student is receiving an applied active learning experience that involves teamwork to overcome challenges, which has resulted in a vibrant and engaged community. The program is a driver of positive risk-taking. Students are expected to work with organizations located in the innovation campus.

The Innovation Design program has seven student learner outcomes that serve as the goals/objectives regarding the program. These goals are:

1. Students will learn to observe and interpret how people interact with their environment to uncover new opportunities that others miss, and reframe problems in new ways.
2. Students will learn to apply best practices in management to make plans, organize projects, align resources, build relationships, monitor outcomes and provide team leadership.
3. Students will learn to develop an understanding of the leadership, collaboration, and presentation skills appropriate for corporate and small business innovation.
4. Students will learn to apply analytical, creative and intuitive thinking styles to seek and diagnose problems, explore opportunities and evaluate existing paradigms to business advantage.
5. Students will learn how to take an original idea (venture, product or service) from concept to prototype design to feasibility testing to the reality of potential launch.

6. Students will learn to identify obstacles to success and design strategies to overcome them to get ideas implemented.
7. The student will complete a supervised applied learning experience(s) in the specialization area in which the student anticipates a career. A presentation about the experience to their faculty and classmates is due prior to graduating.

2. Describe the quality of the program/certificate as assessed by the strengths, productivity, and qualifications of the faculty in terms of SCH, majors, graduates, and scholarly/creative activity (refer to instructions in the WSU Program Review document for more information on completing this section).

Complete the table below and utilize data tables 1-7 provided by the Office of Planning Analysis (covering SCH by FY and fall census day, instructional faculty; instructional FTE employed; program majors; and degree production).

Scholarly Productivity	Number Journal Articles		Number Presentations		Number Conference Proceedings		Performances			Number of Exhibits		Creative Work		No. Books	No. Book Chaps.	No. Grants Awarded or Submitted	$ Grant Value
	Ref	Non-Ref	Ref	Non-Ref	Ref	Non-Ref	*	**	***	Juried	****	Juried	Non-Juried				
Year 1 2016	1		11	4	7							1				3 / 6	$1.16M
Year 2 2017			6	1								3				2 / 5	$1.8M
N/A																	

* Winning by competitive audition. **Professional attainment (e.g., commercial recording). ***Principal role in a performance. ****Commissioned or included in a collection.

- Provide a brief assessment of the quality of the faculty/staff using the data from the table above and tables 1-7 from the Office of Planning Analysis as well as any additional relevant data. Programs should comment on details in regard to productivity of the faculty (i.e., some departments may have a few faculty producing the majority of the scholarship), efforts to recruit/retain faculty, departmental succession plans, course evaluation data, etc.

  Provide assessment here:

  The data in the table above represents only the work of the Institute director whom through this time period was the only faculty/staff member of the III. Although, the director is a full-time administrator with no research responsibilities, the institute is competitive with publications, presentations, and secured grants.

  The publication represented in the chart was in the *International Journal of Speech-Language Pathology* and although there were no publications in 2017, there were five submitted in the review process. The scholarship capabilities and expertise is further recognized by the Director's role as a peer reviewer of manuscripts for the *Journal of Applied Gerontology, Footwear Science, Journal of Medical Systems, and Journal of Applied Biomechanics.*

The director has presented to a wide array of audiences at the national and state levels. The presentations non-refereed presentations listed above were invited presentations at a regional health care summit, NASA Langley Research Center, and two at NASA Johnson Space Center.

Over the past two years, the director has been active in grant applications with a wide range of roles and funding agencies. He is the Co-I of a 2016 NASA CAN award of $1,150,000 and Co-I of a 2017 NIH COBRE award of $1,800,000 and several others from Wichita State University.

The data in the area of Creative Work in the table above represents patent activity and applications that were submitted to the US Patent Office and considered Patent Pending.

Regarding SCH production, rolling 5-year averages for fiscal year SCH production and SCH production at fall census day were not applicable. The institute and the innovation design program launched Fall 2016, hence there is no data reported for the years 2012-2016…….??????????????/

3. **Academic Program/Certificate: Analyze the quality of the program as assessed by its curriculum and impact on students for each program (if more than one). Attach updated program assessment plan (s) as an appendix (refer to instructions in the WSU Program Review document for more information).**

a. For undergraduate programs, compare ACT scores of the majors with the University as a whole.

According to Table 8 from the Office of Planning and Analysis the rolling 5-year average (2012-2016) for ACT scores within the university, as a whole, were 23.1.

Not applicable. The innovation design program is graduate.

b. For graduate programs, compare graduate GPAs of the majors with University graduate GPAs.

According to Table 9 from the Office of Planning and Analysis the rolling 5-year average (2012-2016) for GPAs within the university, as a whole, were 3.5.

Not applicable. There is no data reported for this time period for the III, the program launched in 2016.

c. Identify the principal learning outcomes (i.e., what skills does your Program expect students to graduate with). Provide aggregate data on how students are meeting those outcomes in the table below. Data should relate to the goals and objectives of the program as listed in 1e. Provide an analysis and evaluation of the data by learner outcome with proposed actions based on the results.

In the following table provide program level information. You may add an appendix to provide more explanation/details. Definitions:
Learning Outcomes: Learning outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their matriculation through the program (e.g., graduates will demonstrate advanced writing ability).
Assessment Tool: One or more tools to identify, collect, and prepare data to evaluate the achievement of learning outcomes (e.g., a writing project evaluated by a rubric).
Criterion/Target: Percentage of program students expected to achieve the desired outcome for demonstrating program effectiveness (e.g., 90% of the students will demonstrate satisfactory performance on a writing project).
Result: Actual achievement on each learning outcome measurement (e.g., 95%).
Analysis: Determines the extent to which learning outcomes are being achieved and leads to decisions and actions to improve the program. The analysis and evaluation should align with specific learning outcome and consider whether the measurement and/or criteria/target remain a valid indicator of the learning outcome as well as whether the learning outcomes need to be revised.

Learning Outcomes (most programs will have multiple outcomes)	Assessment Tool (e.g., portfolios, rubrics, exams)	Target/Criteria (desired program level achievement)	Results	Analysis
Students will learn to observe and interpret how people interact with	Final exam in ID500 - Design thinking	80% scoring 60% or better	100%	Exceeds expectations

their environment to uncover new opportunities that others miss, and reframe problems in new ways	process			
Students will learn to apply best practices in management to make plans, organize projects, align resources, build relationships, monitor outcomes and provide team leadership	Final exam in ID501 - Design thinking facilitation	80% scoring 60% or better	100%	Exceeds expectations
Students will learn to develop an understanding of the leadership, collaboration, and presentation skills appropriate for corporate and small business innovation	Final presentation in ID501 -Design thinking facilitation	80% scoring 60% or better	100%	Exceeds expectations
Students will learn to apply analytical, creative and intuitive thinking styles to seek and diagnose problems, explore opportunities and evaluate existing paradigms to business advantage	Final presentation in ENTR 706 – New product development & technology development	80% scoring 60% or better	100%	Exceeds expectations
Students will learn how to take an original idea (venture, product or service) from concept to prototype design to feasibility testing to the reality of potential launch	Final project in ID 752 – Product, service, & process prototyping	80% scoring 60% or better	100%	Exceeds expectations
Students will learn to identify obstacles to success and design strategies to overcome them to get ideas implemented	Final project in ID 502 – Design thinking implementation: Design Challenges – Level 1	80% scoring 60% or better	100%	Exceeds expectations
The student will complete a supervised applied learning experience(s) in the specialization area in which the student anticipates a career. A presentation about the experience to their faculty and classmates is due prior to graduating	Faculty advisor assessment of presentation of experience in ID 841 – Project or ID 840 Innovation in Practice	80% scoring 60% or better	100%	Exceeds expectations

d. Provide aggregate data on student majors satisfaction (e.g., exit surveys), capstone results, licensing or certification examination results (if applicable), employer surveys or other such data that indicate student satisfaction with the program and whether students are learning the curriculum (for learner outcomes, data should relate to the outcomes of the program as listed in 3c).

   Not applicable.

e. Provide aggregate data on how the goals of the *WSU General Education Program* and *KBOR 2020 Foundation Skills* are assessed in undergraduate programs (optional for graduate programs).

   Not applicable.

f. For programs/departments with concurrent enrollment courses (per KBOR policy), provide the assessment of such courses over the last three years (disaggregated by each year) that assures grading standards (e.g., papers, portfolios, quizzes, labs, etc.) course management, instructional delivery, and content meet or exceed those in regular on-campus sections.
   Provide information here:

   Not applicable.

g. Indicate whether the program is accredited by a specialty accrediting body including the next review date and concerns from the last review.
   Provide information here:

   Not applicable.

h. Provide the process the department uses to assure assignment of credit hours (per WSU policy 2.18) to all courses has been reviewed over the last three years.
   Provide information here:

   Every semester syllabi must include credit hour description and all course syllabi are monitored by the Director of the program.

   A "credit hour" is a measure of graduate or undergraduate academic work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for each week of instructional time for approximately fifteen weeks for one semester, or an equivalent amount of work over a different amount of time. This unit of measure, commonly referred to as the "Carnegie unit," is a reasonable approximation of a minimum amount of student work for an on-campus course.

i. Provide a brief assessment of the overall quality of the academic program using the data from 3a – 3e and other information you may collect, including outstanding student work (e.g., outstanding scholarship, inductions into honor organizations, publications, special awards, academic scholarships, student recruitment and retention).
   Provide assessment here:

Programs in the Institute for Interdisciplinary Innovation employ quality control measures. The rigorous outcomes and assessment procedures used to monitor student learning and engagement appear to be effective for developing students that are not only satisfied with their educational experience, but also are able to translate classroom learning into work-based environments.

4. Analyze the student need and employer demand for the program/certificate. Complete for each program if appropriate (refer to instructions in the WSU Program Review document for more information on completing this section).

a. Regarding student applications and admits for the innovation design graduate program, the rolling 5FY average (2013-2017) was 2.8 with 2.4 admitted. Fall 2016 was the launch of the program and we had 1 early admit that counted toward the 2016 year. The year's prior (2013, 2014, 2015) includes a data entry of 0 instead of n/a which effect the overall average admit value. In 2017 there were 13 applicants and 11 admitted.

Rolling 5 year averages (2012-2016) of URMs within the university and the Institute for Interdisciplinary Innovation are as follows:

Academic classification	University %	Institute %
Masters	10.4	*N/A

*The reported URMs are from 2012-2016 and take place prior to the launch of the Innovation Design program.

b. Utilize the table below to provide data that demonstrates student need and demand for the program.

Employment of Majors*							
	Average Salary	Employ-ment % In state	Employment % in the field	Employment: % related to the field	Employment: % outside the field	No. pursuing graduate or profes-sional educa-tion	Projected growth from BLS** Current year only. ↓
Year 1							
Year 2							
Year 3							

* May not be collected every year

** Go to the U.S. Bureau of Labor Statistics Website: http://www.bls.gov/oco/ and view job outlook data and salary information (if the Program has information available from professional associations or alumni surveys, enter that data)

- Provide a brief assessment of student need and demand using the data from tables 11-15 from the Office of Planning and Analysis and from the table above. Include the most common types of positions, in terms of employment graduates can expect to find.

Provide assessment here:

The MID program strongly encourages the development of startups, which is vital to our economic stimulus. Nationally, new businesses account for nearly all net new job creation and almost 20 percent of gross job creation. Companies less than one year old have created an average of 1.5 million jobs per year over the past three decades. Amongst the states, Kauffman Foundation ranks Kansas as 43rd for startup activity or rate of new entrepreneurs. By comparison Oklahoma is 29th; their rate of new

entrepreneurs, which is the percent of residents that become entrepreneurs each month, is 35 percent higher than that of Kansas. The structure and objectives of the MID program have the potential to directly impact our startup community by creating an environment more conducive for ideas to move to market.

- 84% of global executives reported that innovation was extremely important to their growth strategies, but 94% were dissatisfied with their organizations' innovation performance.
- The corporate world has seen an explosion of innovation programs in the past few years, with 38% of the leading 200 companies setting up innovation centers in a global tech hub. (Campainlive.co.uk.)
- The top in-demand skills according to the World Economic Forum include complex problem solving, critical thinking, creativity and emotional intelligence.
- Innovation Manager median salary US$116,422 in September 2017. (Glassdoor)
- Last year, more than 279,000 job postings have listed the skills; Innovation, Creativity, Strategic thinking. Another 239,000 mention design thinking. (Burning Glass Technologies)

In its first year (2016-2017) the innovation design program enrolled only 7 students and launched 4 start-ups. Courses are taught by industry experts that are interested and invested in the impact of the program on the community.

5. **Analyze the service the Program/certificate provides to the discipline, other programs at the University, and beyond. Complete for each program if appropriate (refer to instructions in the WSU Program Review document for more information on completing this section).**

Evaluate table 16 from the Office of Planning Analysis for SCH by student department affiliation on fall census day.

a. Provide a brief assessment of the service the Program provides. Comment on percentage of SCH taken by majors and non-majors, nature of Program in terms of the service it provides to other University programs, faculty service to the institution, and beyond.

Provide assessment here:

Although, the Institute for Interdisciplinary Innovation does not have any faculty, its Director provides a large amount of service across the university, including; Leadership Team in the College of Education, Faculty Fellow in the Honors College, Coleman Fellow in the Center for Entrepreneurship, member of the Board of Directors Inter-Collegiate Athletics Association, Director of the Human Performance Laboratory in the College of Education, Director of the Virtual Reality Driving Simulation Laboratory in the College of Liberal Arts & Sciences, faculty member in the department of exercise science, and affiliate faculty in the department of biomedical engineering. The director oversees the dissemination of the John A. See Innovation Award and works closely with WSU Ventures through the Shocker Startup Competition and is the only faculty evaluator of university invention disclosures.

The Innovation Design Program is structured to provide innovation service to the university and the community. The curriculum runs in rapid non-tradition 4-8 week blocks to meet the need of industry. Innovation Design is partnered with GoCreate, our on-site makerspace funded by Koch Industries and the Fred and Mary Koch Foundation. We offer courses in GoCreate and students gain a membership when admitted.

6. Report on the Program's/certificate's goal (s) from the last review. List the goal (s), data that may have been collected to support the goal, and the outcome. Complete for each program if appropriate (refer to instructions in the WSU Program Review document for more information on completing this section).

(For Last 3 FYs)	Goal (s)	Assessment Data Analyzed	Outcome

7. Summary and Recommendations

a. Set forth a summary of the report including an overview evaluating the strengths and concerns. List recommendations for improvement of each Program (for departments with multiple programs) that have resulted from this report (relate recommendations back to information provided in any of the categories and to the goals and objectives of the program as listed in 1e). Identify three-year goal (s) for the Program to be accomplished in time for the next review.

Provide assessment here:

Although the graduate innovation design program was recently launched and there is limited self study data to report, the program is healthy and should meet its enrollment cap before the next review. The program appears to be embraced by industry and students are receiving job offers prior to graduation. Using the SWOT analysis framework, the following discussion represents the strengths, weaknesses, opportunities, and threats for the program moving forward.

Strength: We have developed programmatic goals and student learner outcomes for the innovation design program, which are assessed using direct and indirect measures. Local industry leads were consulted in the development of the student outcomes to meet industry needs. The benchmarks/criteria are set high to ensure quality student learning (and assessment). When benchmarks for student learner outcomes are not met, then the following year an action plan must be developed to address any potential modifications or adjustments. Another strength of the program is the small, but productive faculty/instructors. In keeping with goals to meet industry needs, industry experts lead much of the course instruction and keep the curriculum agile. The industry focus stays academically grounded by having an Institute director/professor with an international scholarly reputation maintaining productivity and leading technology innovation.

Weakness: With such a small number of faculty, eventually as we continue the growth pattern, many of the SCHs will be produced by adjuncts. While steps can be taken to professionally develop adjuncts, full time faculty could generate a larger number of SCHs. Additional resources would improve upon this weakness.

Opportunities: Innovation as a vocation is increasing in popularity, at the time this review was drafted (2018) there were more than 39,000 job postings on LinkedIn for Innovation Leads or Innovation Officers. This is one of the few face-to-face graduate programs in innovation design in the U.S., which is

getting recognition with international students. As a result of the industry demand we are attempting to increase not only the number of graduates from our program, but we are attempting to increase SCH production through a number of initiatives outlined in our strategic plan. Some of these initiatives include partnering with other programs for graduate and undergraduate certificates and collaborating more with community partners. Although there is currently limited data provided by OPA due to the start date of our program, it is observable that the innovation design program has an opportunity to better serve URMs by proving them education, cultural, and industry-based project opportunities.

Threats: Although our growth rate is rapid by academic standards, we will be limited due to lack of resources. Regional programs (other KBOR schools) can develop similar programs and not only close the gap, but surpass us quickly by putting resources to grow in this area and entice students to attend those institutions. Also, in order to remain competitive faculty salaries, travel, and student assistantships are severely lacking.

Future goals:

Develop high quality community, educational, research, and industry partnerships.

Recruit/retain high quality faculty, staff, and students.

Expand graduate innovation design curriculum into undergraduate offerings.