Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Biomedical Engineering
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Biomedical Engineering b. Award: Master of Science c. SED Program Code: 32188 d. HEGIS Code: 0905.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main

	campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] institutions and/or organizations. Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted]

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The goal of the Master of Science (MS) program in Biomedical Engineering (BME) is to prepare students for careers in industry, business, academia, and research laboratory environments by offering a flexible program of coursework and mentoring that enables students to engage in creative and independent research on a cutting-edge research topic. The program is designed to prepare students for leadership positions in biomedical research, education, and entrepreneurship, and for success in a fast-paced and challenging

engineering environment. Graduates will have diverse career opportunities in academia, industries, and businesses working to improve human health and well-being through scientific and technological innovations.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

BME 533 - Human Physiology
Credits: 3
An introduction to the major organ systems of the body with an emphasis on regulatory processes and interactions with other systems. The course provides students with a basic understanding of the prevalent theories of physiology and pathophysiology and the application of these theories to health concerns relevant to biomedical engineering. Prerequisites: Graduate standing in BME or instructor approval.

BME 572 - Experimental Design & Stat Anyls
Credits: 3
This is an advanced course for biomedical engineering graduate students. It covers topics such as experimental design and hypothesis testing, ANOVA, MANOVA, linear and multiple regression, generalized linear modeling, principal component analysis, clustering, sampling methods, and bioinformatics. Prerequisites: Graduate standing in BME or instructor approval.

BME 590 - Grad Seminar in Biomedical Eng
Credits: 1
This course serves as the seminar course within the biomedical engineering graduate curriculum, in which seminars on cutting-edge research by biomedical engineering faculty, students, and invited guest speakers will be held. Prerequisites: Graduate standing in BME or instructor approval.

BME 682 - Emerging Methods & App in BME
Credits: 3
This is a graduate course designed for students with varied levels of experience in biomedical engineering. The goal is to allow students to become familiar with emerging biomedical sciences and technologies. The course covers the following topics: advanced DNA/RNA/protein engineering technologies, therapeutic product design and development, genome editing, biomaterial development, advanced bioimaging, and case studies in biomedical science and engineering. It offers training in communication skills critical to career development. In addition, the course offers hands-on training to students for them to learn how to apply the emerging methods to solve real world biomedical engineering problems. hour course including two hours of lecture and one hour of lab training. Graduate Standing.

Required for Thesis Option:

BME 599 - Thesis

Credits: Variable
Research activity for MS students under the direction of a biomedical engineering program faculty member.

Required for Project Option:

BME 598 - Project
Credits: Variable
Reading and research on special topics for MS project students under the direction of a biomedical engineering program faculty member. Students must obtain the consent of a professor, who then determines the description of the study program, number of credits, frequency of meetings, and location. Three credits of BME 598 are required for graduation with a termination project-based MS degree.

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established

reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising**. Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly

available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS BME are as follows:

1. Students can apply engineering mathematics and fundamental BME methods.

2. Students can apply methods to advanced problems in their area of specialization.
3. Students can effectively communicate research findings.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the Department of Biomedical Engineering conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the

program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted].

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Thesis Option)

Program/Track Title and Award: Biomedical Engineering MS (Thesis Option)

Term 1: Fall 1 MS Thesis Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME 533: Human Physiology	3		Graduate standing in BME
BME 572: Exp Design & Stat Anlys	3		Graduate standing in BME
BME 590: Graduate Seminar in BME	1		Graduate standing in BME
BME Elective	3		Graduate standing in BME
BME Elective	2		Graduate standing in BME
Term credit total:	12		

Term 2: Spring 1 MS Thesis Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME 682: Emerg Meth & App in BME	3		Graduate standing in BME
BME 690: Adv Grad Sem in BME	2		Graduate standing in BME
BME Elective	3		Graduate standing in BME
BME Elective	4		Graduate standing in BME
Term credit total:	12		

Term 3: Fall 2 MS Thesis Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME Elective	3		Graduate standing in BME
BME 599: Thesis	6		Graduate standing in BME
Term credit total:	9		

Term 4: Spring 2 MS Thesis Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME 599: Thesis	1		Graduate standing in BME
Term credit total:	1		

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 34**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: Oral defense and submission of MS thesis.**

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option)

Program/Track Title and Award: Biomedical Engineering MS (Project Option)

Term 1:Fall 1 MS Project Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME 533: Human Physiology	3		Graduate standing in BME
BME 572: Exp Design & Stat Anlys	3		Graduate standing in BME
BME 590: Graduate Seminar in BME	1		Graduate standing in BME
BME Elective	3		Graduate standing in BME
BME Elective	2		Graduate standing in BME
Term credit total:	12		

Term 2: Spring 1 MS Project Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME 682: Emerg Meth & App in BME	3		Graduate standing in BME
BME 690: Adv Grad Sem in BME	2		Graduate standing in BME
BME Elective	3		Graduate standing in BME
BME Elective	4		Graduate standing in BME
Term credit total:	12		

Term 3: Fall 2 MS Project Option			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
BME Elective	3		Graduate standing in BME
BME 598: Project	3		Graduate standing in BME
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: Termination project submitted at the end of BME 598: Project course.**

New: X if new course **Prerequisite**(s): list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Guy German*, Associate Professor and Graduate Program Director	FT	BME 572: Experimental Design and Statistical Analysis	3%	PhD in Mechanical Engineering, The University of Edinburgh, Edinburgh, U.K., postdoc, Yale University	
Ying Wang, Assistant Professor	FT	BME 484: AI in Biomedical Engineering	3%	PhD in Biomedical Engineering, University of California, Davis, Postdoc, Cornell University	
Tracy Hookway, Associate Professor	FT	BME 533 Human Physiology	3%	PhD in Biomedical Engineering, Worcester Polytechnic Institute, postdoc, Georgia Tech	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	
TBH	FT		100%	PhD in Biomedical Engineering or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted].

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Computer Science
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	31
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Computer Science b. Award: Master of Science c. SED Program Code: 87486 d. HEGIS Code: 0701.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main

	campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities	
C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted].

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science in Computer Science degree (MS CS) focuses on the design and application of computing systems, including the design of hardware and software components, hardware-software trade-offs, and the diverse applications of computing. This program offers two optional tracks in special topics in computer science: the Artificial Intelligence Track and the Cybersecurity Track. Students may choose to complete the MS in Computer Science with or without a track. The MS CS program is

intended for students with a bachelor's degree in computer science or a related field with a strong background in computer science and a desire to prepare for research studies or professional practice.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

CS 520 - Computer Architecture & Organization
Credits: 3
Pipelined processors: basic theory, instruction pipelines, multifunction units, dynamic instruction scheduling, branch handling, precise interrupts. Compiler techniques for enhancing ILP. Pipelined vector machines. Superscalar, VLIW and EPIC architectures. High-speed memory system design. Overview of parallel/multiprocessor architectures: SIMD/MIMD systems, interconnection networks, synchronization and cache coherence. Prerequisite: Undergraduate Computer Architecture. Offered every semester when possible.

CS 528 - Computer Networks
Credits: 3
Communication protocols and layering, hardware-software infrastructures for networking, MAC protocols, data link protocols, switching, inter- and intra-domain routing, the TCP/IP protocol suite, transport protocols, application layer protocols, local and system area networks, wireless and sensor networks, overlay and virtual networks, client-server and peer-to-peer models, network programming with sockets, protocol design and implementation issues, network security. Prerequisite: Undergraduate Operating Systems. Term offered varies.

CS 550 - Operating Systems
Credits: 3
Advanced topics in operating systems. Process synchronization, linguistic support for concurrency, virtual memory, deadlock theory, robustness, security, mathematical models and correctness of concurrent programs. Treatment of selected topics in distributed and multiprocessor operating systems. Prerequisite: Undergraduate Operating Systems. Offered every semester when possible.

CS 551 - Systems Programming
Credits: 3
A detailed study of the application program interface of a modern operating system. File operations, concurrency, processes, threads, inter-process communication, synchronization, client-server programming, multi-tier programming. Prerequisite: Undergraduate Operating Systems. Term offered varies.

CS 571 - Programming Languages
Credits: 3
Selected topics in programming languages and alternative programming paradigms. Functional and imperative languages. Logic programming and object-oriented

programming paradigms. Languages for concurrent computation. Semantics of programming languages. Prerequisite: Undergraduate Algorithms. Offered every semester when possible.

CS 575 - Design & Analysis of Computer Algorithms
Credits: 3
Analysis of programs and review of design techniques. Lower bound theory and NP-completeness. Heuristic, approximation, probabilistic and parallel algorithms. Prerequisites: Undergraduate Algorithms. Offered every semester when possible.

Required for Artificial Intelligence Track:

CS 536 - Intro to Machine Learning
Credits: 3
This course provides a broad introduction to machine learning and its applications. Major topics include: supervised learning (generative/discriminative learning, parametric/non-parametric learning, support vector machines); computational learning theory (bias/variance tradeoffs, VC theory, large margins); unsupervised learning; semi-supervised learning; reinforcement learning. The course will give students the basic ideas and intuition behind different techniques as well as a more formal understanding of how and why they work. The course will also discuss recent applications of machine learning, such as to data mining, bioinformatics, and information retrieval. Prerequisites: Undergraduate Algorithms, Probability with Statistical Methods. Term offered varies.

CS 565 - Intro to Artificial Intelligence
Credits: 3
This course will cover the basic ideas and techniques underlying the design of artificial intelligence (AI) agents. Topics include search, knowledge representation (and reasoning), planning, reasoning under uncertainty, machine learning (including reinforcement learning), and applications (natural language processing, vision, robotics, etc). Prerequisite: Undergraduate Algorithms. Term offered varies.

Required for Cybersecurity Track:

CS 558 - Intro to Computer Security
Credits: 3
The course provides an introduction to the principles and practices of network, computer, and information security. Topics include authentication and cryptographic techniques, intrusion detection, access control, security policies, and program/policy analysis techniques. Prerequisite: Undergraduate Operating Systems and Algorithms. Term offered varies.

CS 559 - Science of Cyber Security
Credits: 3
This course focuses on techniques that approach cyber security problems in a principled manner using concepts from data mining, game theory, graph theory, and psychology. The intent of this course is to permit students to bridge the divide between real-world cyber threats and formal, scientific foundations of solutions that address such threats. Real-world cyber security issues, such as spamming, phishing attacks, malware, sybil attacks in social networks, and DDoS attacks, are used to illustrate how cyber threats can be modeled with abstract representations that are amenable to rigorous analysis and formal reasoning. The course also emphasizes the development of cyber defense mechanisms that are rooted in

scientific foundations. Prerequisite: Undergraduate Operating Systems and Algorithms. Term offered varies.

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] group of institutions to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	60	120
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS CS are as follows:

1. Analyze complex computing problems and apply computing principles and software development fundamentals to identify computing-based solutions.
2. Design, implement, and evaluate advanced computing-based solutions to meet a given set of computing requirements of problems.
3. Understand published technical literature.
4. Communicate computer science related technical material effectively.
5. Collaborate in a team to develop computing-based solutions.
6. Recognize professional responsibilities, social, legal, and ethical issues to enable informed judgments in the computing profession.
7. Pursue a career or more advanced graduate study in computer science or related fields.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course

preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the School of Computing conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency

in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Thesis Option)

Program/Track Title and Award: Computer Science, Thesis Option, MS (All tracks included)

Term 1: Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 551 Systems Programming	3		
CS 571 Programming Languages	3		
CS Graduate Elective or CS 536 Intro. to Machine Learning (AI Track) or CS 558 Intro. to Computer Security (Cybersecurity Track)	3		
CS Graduate Elective or CS Graduate AI Elective (AI Track) or CS Graduate Cybersecurity Elective (Cybersecurity Track)	3		
Term credit total:	12		

Term 2: Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 575 Design & Analysis of Computer Algorithms	3		
CS Graduate Elective	3		
CS Graduate Elective or CS 565 Intro. to Artificial Intelligence (AI Track) or CS 559 Science of Cyber Security (Cybersecurity Track)	3		
CS Graduate Elective or CS Graduate AI Elective (AI Track) or CS Graduate Cybersecurity Elective (Cybersecurity Track)	3		
Term credit total:	12		

Term 3: Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 520 Computer Architecture & Organ or CS 528 Computer Networks or CS 550 - Operating Systems	3		
CS 599 MS Thesis	4		
Term credit total:	7		

Term 4: Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 31**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** Completion of 4 credits of CS 599 and submission of a Master's thesis.

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option)

Program/Track Title and Award: Computer Science, Project Option, MS (All tracks included)

Term 1: Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 551 Systems Programming	3		
CS 571 Programming Languages	3		
CS Graduate Elective or CS 536 Intro. to Machine Learning (AI Track) or CS 558 Intro. to Computer Security (Cybersecurity Track)	3		
CS Graduate Elective or CS Graduate AI Elective (AI Track) or CS Graduate Cybersecurity Elective (Cybersecurity Track)	3		
Term credit total:	12		

Term 2: Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 575 Design & Analysis of Computer Algorithms	3		
CS Graduate Elective	3		
CS Graduate Elective or CS 565 Intro. to Artificial Intelligence (AI Track) or CS 559 Science of Cyber Security (Cybersecurity Track)	3		
CS Graduate Elective or CS Graduate AI Elective (AI Track) or CS Graduate Cybersecurity Elective (Cybersecurity Track)	3		
Term credit total:	12		

Term 3: Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
CS 520 Computer Architecture & Organ or CS 528 Computer Networks or CS 550 - Operating Systems	3		
CS Graduate Elective	3		
CS 595 Termination Project	1		
Term credit total:	7		

Term 4: Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 31**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** Completion of 4 credits of CS 599 and submission of a Master's thesis.

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Madhusudhan Govindaraju*, Vice Provost for International Education and Global Affairs and Professor	FT	CS 542 Design Patterns	3%	PhD in Computer Science, Indiana University	
Weiying Dai, Associate Professor	FT	CS 575 Design and Analysis of Computer Algorithms	3%	PhD in Computer Science, University of Pittsburgh	
Aravind Prakash, Associate Professor	FT	CS 553X Software Security	3%	PhD in Computer Science, Syracuse University	
Adnan Sirag Rakin, Assistant Professor	FT	CS 536 Intro to Machine Learning	3%	PhD in Computer Science, Arizona State University	
Sujoy Sikdar, Assistant Professor	FT	CS 536 Intro to Machine Learning	3%	PhD in Computer Science, Rensselaer Polytechnic Institute	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Electrical and Computer Engineering
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Electrical and Computer Engineering b. Award: Master of Science c. SED Program Code: 82484 d. HEGIS Code: 0909.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of

	instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]. Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted]

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science program in Electrical and Computer Engineering (MS ECE) prepares students for development-oriented engineering careers and/or continuation to doctoral studies by providing:

- Increased depth in an area of focus
- Expanded breadth in supporting areas
- Focused study of recent advances in the area of focus

The MS ECE program offers the balance of advanced theory and practical engineering knowledge necessary to prepare its graduates for professional practice and/or for continuation into a PhD program. The program culminates with either a thesis or a project report through which students develop their ability to perform independent investigation of recent advances and present the results in a written document. The typical time for completion is 18-24 months of full-time study.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

EECE 506 - Mathematical Methods In EE
Credits: 3
Selected topics in the advanced engineering mathematics, with special focus on their electrical engineering applications. Topics include ordinary and partial differential equations, Laplace transform, Fourier transform, linear algebra, matrix theory, numerical methods, complex analysis, optimization, probability and statistics. Prerequisites: calculus and differential equations. Offered every fall semester.

EECE 507 - Mathematical Methods In COE
Credits: 3
This course provides fundamental computer engineering knowledge for the design and analysis of digital systems. Includes applications of Discrete Math; Groups; Group Codes; Semi-groups; Synthesis of Networks; Reliable Design and Fault Diagnosis; Graphs; and Finite State Machines. Prerequisites: EECE 351 or equivalent and MATH 314 or equivalent. Offered every fall semester.

EECE 598 - Project/Pre-Thesis
Credits: Variable
Hardware and software design and development or other project as defined by a Learning Contract, approved by major professor and project advisor. Seminar presentation required. Formal report submitted to the Project advisor. Signature of advisor required prior to registration. Offered every semester.

Required for Thesis Option:

EECE 599 - Thesis
Credits: Variable
Mentoring in the methods of research. Theoretical analysis, computer modeling, software and hardware development and experimentation as determined by a Thesis Committee, faculty advisor, second reader or co-advisor and department chair. Oral defense. Preparation of journal article required. Thesis submitted to Graduate School electronically for the University Library. Signature of advisor required prior to registration. Offered every semester.

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS ECE are as follows:

1. Students can apply theoretical methods to solve ECE problems.
2. Students can apply numerical methods to solve ECE problems.
3. Students can apply modern ECE methods/concepts to real engineering problems.
4. Students can effectively write technical documents.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the Department of Electrical and Computer Engineering conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback

from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Thesis Option)

Program/Track Title and Award: Electrical and Computer Engineering, MS (Thesis Option)

Term 1:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 506 – Mathematical Methods in Electrical Engineering OR EECE 507 – Mathematical Methods in Computer Engineering	3		
EECE 5XX – Area of Focus Course	3		
EECE 5XX – Area of Focus Course	3		
EECE 5XX – Breadth Course	3		
Term credit total:	12		

Term 2:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 5XX/6XX – Area of Focus Course	3		
EECE 5XX/6XX – Breadth Course	3		
EECE 5XX/6XX – Technical Elective	3		
EECE 598 – Project/Pre-Thesis	3		
Term credit total:	12		

Term 3:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 5XX/6XX – Technical Elective	3		
EECE 599 – Thesis	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: EECE 598 – Project/Pre-Thesis (3 cr.) and EECE 599 – Thesis (3 cr.)**

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option)

Program/Track Title and Award: Electrical and Computer Engineering, MS (Project Option)

Term 1:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 506 – Mathematical Methods in Electrical Engineering OR EECE 507 – Mathematical Methods in Computer Engineering	3		
EECE 5XX – Area of Focus Course	3		
EECE 5XX – Area of Focus Course	3		
EECE 5XX – Breadth Course	3		
Term credit total:	12		

Term 2:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 5XX/6XX – Area of Focus Course	3		
EECE 5XX/6XX – Breadth Course	3		
EECE 5XX/6XX – Technical Elective	3		
EECE 5XX/6XX – Technical Elective	3		
Term credit total:	12		

Term 3:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
EECE 5XX/6XX – Technical Elective	3		
EECE 598 – Project/Pre-Thesis	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: EECE 598 – Project/Pre-Thesis (3 cr.)**

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Douglas Summerville*, Professor and Chair of the Electrical and Computer Engineering Department	FT	EECE 558 Embedded Systems Design	3%	PhD in Electrical Engineering, Binghamton University	
Vladimir Nikulin, Associate Professor and Director of Graduate Studies	FT	EECE 503 Electric Drivers	3%	PhD in Electrical Engineering, Binghamton University	
Pritam Das, Associate Professor	FT	EECE 504 Power Electronics	3%	Ph.D in Electrical Engineering, University of Western Ontario, Canada	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	
TBH	FT		100%	PhD in Electrical and Computer Engineering or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Healthcare Systems Engineering
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Healthcare Systems Engineering b. Award: Master of Science c. SED Program Code: 39728 d. HEGIS Code: 0913.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main

	campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities	
C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: Second Floor, Gamma Building [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted].

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science in Healthcare Systems Engineering (MS HSE) degree program provides a balance of theory and practical knowledge for the practice of the profession and/or for advancement to a doctoral program. This program prepares individuals for professional or leadership roles in various healthcare areas, including hospital operations management, health systems engineering, health information technology, and consulting. Students in this program will attain a wide variety of industrial and systems engineering

tools and skill sets, such as modeling and simulation, statistical process control, Lean Six Sigma, data science and analytics, reliability modeling, scheduling, human factors engineering and ergonomics, and optimization, among others.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

SSIE 505 - Applied Probability & Statistics
Credits: 3
Basic concepts in probability and statistics required in the modeling of random processes and uncertainty. Bayes' formula, Bayesian statistics, independent events; random variables and their descriptive statistics; distribution functions; Bernoulli, Binomial, Hypergeometric, Poisson, normal, exponential, gamma, Weibull and multinomial distributions; Chebyshev's theorem; central limit theorem; joint distributions; sampling distributions; point estimation; confidence intervals; student-t, x squared and F distributions; hypothesis testing; contingency tables, goodness of fit, non-parametric statistics, regression and correlation. Prerequisite: one year of calculus. Term offered varies.

SSIE 520 - Modeling and Simulation
Credits: 3
Stochastic processes, review of probability and statistics, covariance, input data selection, random number generators, non-parametric tests for randomness, generation of random variates, output data analysis, terminating and non-terminating simulations, model validation, comparison of alternatives, variance reduction techniques, sensitivity analysis, experimental design and predictive models. Prerequisite: SSIE 505 or equivalent. Term offered varies.

SSIE 561 - Quality Assurance for Engineer
Credits: 3
Statistical quality control, designing for quality, process control, vendor and customer quality issues, quality costs and production. Prerequisites: SSIE 505 or permission of instructor. Offered in the Spring semester.

SSIE 534 - Fundamentals of Health Systems
Credits: 3
One of the growing systems in our society is that of the healthcare delivery system. The purpose of this course is to introduce the concepts behind the healthcare delivery systems and to focus upon the systems improvement or continuous improvement techniques available for complex systems. Topics would include improvement to, and problems with: organizational structure, managing change, the financial structure, the responsibility structure, quality data and implications of quality measures, use of clinical decisions support systems and the care givers role in the system. There will also be a focus upon suppliers to the healthcare delivery system and the unique requirements placed upon their products and processes. Prerequisite: Graduate standing or permission of instructor. Cross-listed with ISE 434. Term offered varies.

SSIE 537 - Ind & Sys Eng in Healthcare
Credits: 3
The application of industrial and systems engineering principles to continuous process improvement in the healthcare domain will be studied. Concepts that will be addressed will include, but not be limited to, process mapping, optimization, scheduling, lean and flexible systems, quality enhancement, simulation, supply chain management, inventory control, and information management. Prerequisite: graduate standing in the department or permission of the instructor. Cross listed with ISE 437. Term offered varies.

SSIE 538 - Healthcare Financial Eng
Credits: 3
This course is intended to provide an overview of healthcare finance and the current financial environment for the healthcare industry and to learn how to apply engineering economics to healthcare financial management. It will provide information on financial and managerial accounting and how the use of Systems Science and Industrial and Systems Engineering principles can be applied to financial management concepts to allow for health-related organizations to make sound business decisions. Cross-listed with ISE 438. Prerequisites: SSIE 534 or permission of the instructor. Term offered varies.

Required for Project Option:

SSIE 598 - MS Termination Project
Credits: Variable
In depth study and analysis of a selected topic in health or other service system, or manufacturing system as approved by the project advisor. Course requires a formal report, defense, and presentation. Term offered varies.

Required for Thesis Option:

SSIE 599 - Thesis
Credits: Variable
Training in the methods of research. Oral examination required. Minimum of six credits total. Bound thesis goes in University Libraries and department library. Term offered varies.

Required for Coursework-only Option:

SSIE 637 - Advanced Topics in Health Systems
Credits: 3
This course is intended as an advanced course in health systems and health care delivery. This course is oriented to provide graduate students with an in-depth study of the application of industrial and system engineering principles for continuous process improvement in the healthcare industry. Concepts that are addressed and studied include, but are not limited to, process mapping, optimization, scheduling, lean and flexible systems, quality enhancement, simulation, supply chain management, inventory control, and information management. SSIE 537 or permission of the instructor. Term offered varies.

See Tables 1a, 1b, and 1c for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available,

including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS HSE are as follows:

1. Students will be able to apply engineering mathematics and fundamental healthcare systems engineering methods.
2. Students will be able to apply healthcare systems engineering methods to advanced problems in their area of specialization.
3. Students will be able to effectively communicate research findings.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.

- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the School of Systems Science and Industrial Engineering conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency

in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Thesis Option)

Program/Track Title and Award: Healthcare Systems Engineering, MS (Thesis Option)

Term 1: FALL Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505, Applied Probability & Statistic	3		N/A
SSIE 534, Fundamentals of Health Systems	3		N/A
SSIE 537, Industrial and Systems Engineering in Healthcare	3		N/A
Elective – Health Systems	3		
Term credit total:	12		

Term 2: SPRING Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520, Modeling & Simulation	3		SSIE 505 or equivalent
SSIE 561, Quality Assurance for Engineers	3		N/A
SSIE 538, Healthcare Finance & Accounting	3		N/A
Elective – Health Systems, 600-level course	3		
Term credit total:	12		

Term 3: FALL Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Thesis – 6 credits min	6		
Term credit total:	6*		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** **This program option will culminate with a thesis (SSIE 599).**

New: X if new course **Prerequisite**(s): list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option)

Program/Track Title and Award: **Healthcare Systems Engineering, MS (Project Option)**

Term 1: FALL Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505, Applied Probability & Statistic	3		N/A
SSIE 534, Fundamentals of Health Systems	3		N/A
Elective – Health Systems	3		
Elective – Health Systems	3		
Term credit total:	12		

Term 2: SPRING Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520, Modeling & Simulation	3		SSIE 505 or equivalent
SSIE 561, Quality Assurance for Engineers	3		N/A
SSIE 537, Industrial and Systems Engineering in Healthcare	3		N/A
SSIE 538, Healthcare Finance & Accounting	3		N/A
Term credit total:	12		

Term 3: FALL Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Elective – Health Systems, 600-level course	3		
Project – 3 credits min	3		
Term credit total:	6*		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: This program option will culminate with a project (SSIE 598).**

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1c – Curriculum Chart for the Out-of-State or International Program (Coursework Option)

Program/Track Title and Award: Healthcare Systems Engineering, MS (Coursework-only Option)

Term 1: FALL Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505, Applied Probability & Statistic	3		N/A
SSIE 534, Fundamentals of Health Systems	3		N/A
Elective – Health Systems	3		
Elective – Health Systems	3		
Term credit total:	12		

Term 2: SPRING Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520, Modeling & Simulation	3		SSIE 505 or equivalent
SSIE 561, Quality Assurance for Engineers	3		N/A
SSIE 537, Industrial and Systems Engineering in Healthcare	3		N/A
SSIE 538, Healthcare Finance & Accounting	3		N/A
Term credit total:	12		

Term 3: FALL Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Elective – Health Systems	3		
SSIE 637 Advanced Topics in Health Systems	3		
Term credit total:	6*		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable: This program option will culminate with completion of SSIE 637 Advanced Topics in Health Systems, which includes significant project-based coursework to serve as capstone for the program (and termination requirement).**

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Mohammad Khasawneh*, SUNY Distinguished Professor and Director School of Systems Science and Industrial Engineering	FT	SSIE 537 ISE in Healthcare	5%	PhD in Industrial Engineering, Clemson University	
Yong Wang, Associate Professor & Associate Director School of Systems Science and Industrial Engineering	FT	SSIE 505 Applied Probability and Statistics, or SSIE 664 Advanced Engineering Management	5%	PhD in Industrial Engineering and Operations Research, University of Illinois and PhD in Energy and Power Engineering, Huazhong University of Science and Technology	
Daehan Won, Associate Professor	FT	SSIE 520 Modeling and Simulation, or SSIE 637 Advanced Topics in Healthcare	5%	PhD in Industrial and Systems Engineering, University of Washington, Seattle	
Sangwon Yoon, Professor	FT	SSIE 553 Operations Research	5%	PhD in Industrial Engineering, Purdue University, West Lafayette	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Information Systems
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	31
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Information Systems b. Award: Master of Science c. SED Program Code: 42040 d. HEGIS Code: 0702.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of

	instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted]

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science in Information Systems degree (MS IS) degree program prepares students for careers in information technology, spanning from the utilization of sophisticated artificial intelligence and machine learning tools for data gathering and analysis, to the design, configuration, and deployment of information systems. Management of teams tasked with work of this nature is also within the scope of the program.

This program offers an optional track in Applied Data Science.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

INFO 501 - Inf Sys I Python & Data Mining
Credits: 3
This course covers the Python programming language, and also introduces fundamental concepts in machine learning and data mining. No prior programming language experience is expected: students will develop coding skills in this course. There will be an emphasis on the use of sophisticated libraries and software packages available for a variety of data intensive tasks. Prerequisites: None When Offered: At least once a year.

INFO 502 - Inf Sys II Mgmt of Systems
Credits: 3
Vast quantities of computing resources and storage are easily available, either through commercial providers (e.g., AWS), or from in-house systems. The focus of this course is in specifying, deploying, and managing these resources, and matching them to various computing needs. Security of these systems is a key concern, and a major focus of the course. Ethical and legal concerns (e.g., privacy, anonymity, tracking, surveillance, data preservation) are also considered in depth. Prerequisite: None. Offered once a year.

INFO 532 - Database Systems
Credits: 3
Students will also gain technical understanding of and hands-on experience with the information technology required for data analytics. The focus of the course is on traditional databases and structured data. It covers association between data elements and data models (including entity-relationship and relational models), relational database design techniques, database query languages. Students will be exposed to query processing, transaction management, and concurrency control. Prerequisite: (Can be taken concurrently) INFO 501, INFO 502. Offered at least once every year.

INFO 595 - Termination Project
Credits: Variable
A theoretical or practical project carried out under the supervision of a faculty member of the Computer Science Department. Project documentation must be submitted as a report and explained in a presentation to the supervisor. Further information is available from the Graduate Program administrators in the department. Prerequisite: Graduate standing in the MSIS program and consent of the faculty supervisor.

Required for the Applied Data Science Track:

INFO 535 - Applied Data Mining
Credits: 3

With advances in modern technology, such as the widespread use of electronic records or the internet, the sheer volume of data is staggering. The challenge is to distill the data into useful knowledge that has relevance for managerial decisions. Data mining techniques provide solutions to this challenge. This course will introduce the main topics and algorithms in data mining and knowledge discovery. Emphasis will be placed on the algorithmic and systems issues, as well as application of mining in real-world problems. Upon successful completion of this course, students will gain knowledge of key data mining concepts and algorithms, and be able to apply different data mining techniques to solve real-world problems. Prerequisite: (Can be taken concurrently) INFO 501, INFO 502. Offered at least once a year.

INFO 536 - Applied Machine Learning
Credits: 3
Machine learning is the science of getting computers to make decisions without being explicitly programmed. This course provides a broad introduction to machine learning and its applications. It introduces students to the key insights behind different machine learning techniques and algorithms as well as an understanding of how and why they work. The course also discusses applications of machine learning and practical guidelines in applying machine learning techniques in real-world problems. Prerequisite: INFO 501 Inf Sys I Python & Data Mining. Co-Requisite: INFO 535 Applied Data Mining. Expected to be offered at least once every two years.

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS IS are as follows:

1. Deploy, configure, and maintain computing systems and software for both in-house computing and cloud computing.
2. Utilize computing systems and software to gather, process and analyze data.
3. Assess security and privacy needs for information systems and develop solutions to address these needs.
4. Collaborate in a team environment to develop an Information Systems solution.
5. Recognize professional, legal, and ethical issues to enable informed judgments in the computing practice.
6. Present and communicate the findings in a professional manner.
7. Pursue a career or more advanced graduate study in Information Systems or related fields.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the School of Computing conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Project Option, no track)

Program/Track Title and Award: Information Systems, MS (no track)

Term 1: Fall 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
INFO 501 Info. Systems I: Python and Data Mining	3		
INFO 502 Info. Systems II: Management of Systems	3		
Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
Term credit total:	12		

Term 2: Spring 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
INFO 532 Database Systems	3		INFO 502
Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
Term credit total:	12		

Term 3: Fall 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
INFO 595 Termination Project	1		
Term credit total:	7		

Term 4: Spring 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 31**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** INFO 595 Termination Project

New: X if new course **Prerequisite**(s): list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option, Applied Data Science Track)

Program/Track Title and Award: Information Systems, MS (Applied Data Science Track)

Term 1: Fall 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
INFO 501 Info. Systems I: Python and Data Mining	3		
INFO 502 Info. Systems II: Management of Systems	3		
INFO 535 Applied Data Mining	3		INFO 501, INFO 502
Applied Data Science Track Elective	3		INFO 501, INFO 502
Term credit total:	12		

Term 2: Spring 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
INFO 532 Database Systems	3		INFO 502
INFO 536 Applied Machine Learning	3		INFO 501, INFO 502
Applied Data Science Track Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
Term credit total:	12		

Term 3: Fall 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Elective	3		INFO 501, INFO 502
Elective	3		INFO 501, INFO 502
INFO 595 Termination Project	1		
Term credit total:	7		

Term 4: Spring 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 31**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** INFO 595 Termination Project

New: X if new course **Prerequisite(s):** list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Patrick Madden*, Associate Professor	FT	INFO 595 Termination Project	5%	PhD in Computer Science, University of California at Los Angeles	
Hafiz Munsub Ali, Lecturer	FT	INFO 501 Information Systems I INFO 532 Database Systems	5%	PhD in Engineering Science (Computational Intelligence), Simon Fraser University	
Zhaohao Xi, Assistant Professor	FT	INFO 561 Large Language Modes: Foundations & Applications	5%	PhD in Informatics, Pennsylvania State University	
Yingxue Zhang, Assistant Professor	FT	INFO 535 Applied Data Mining INFO 536 Applied Machine Learning	5%	PhD in Data Science, Worcester Polytechnic Institute	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	
TBH	FT		100%	PhD in Computer Science or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Industrial and Systems Engineering
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Industrial and Systems Engineering b. Award: Master of Science c. SED Program Code: 82485 d. HEGIS Code: 0913.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of

	instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted]

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science in Industrial and Systems Engineering (MS ISE) degree provides the balance of theory and practical knowledge for the practice of the profession and/or for advancement to a doctoral program. The program draws on the wide-ranging areas of faculty expertise to integrate both engineering and non-engineering systems, such as those found in manufacturing, healthcare, supply chain management, and transportation, using a wide variety of industrial and systems engineering tools, such as modeling and simulation,

statistical process control, advanced data science and analytics (including machine learning and artificial intelligence), reliability modeling, scheduling, human factors engineering and ergonomics, energy, environmental studies, optimization, and engineering management, among others. Industrial and systems engineers study complex systems and look for simplifying solutions across all environments and fields of study, including manufacturing, management, health systems, and social sciences.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

SSIE 505 - Applied Probability & Statistics
Credits: 3
Basic concepts in probability and statistics required in the modeling of random processes and uncertainty. Bayes' formula, Bayesian statistics, independent events; random variables and their descriptive statistics; distribution functions; Bernoulli, Binomial, Hypergeometric, Poisson, normal, exponential, gamma, Weibull and multinomial distributions; Chebyshev's theorem; central limit theorem; joint distributions; sampling distributions; point estimation; confidence intervals; student-t, x squared and F distributions; hypothesis testing; contingency tables, goodness of fit, non-parametric statistics, regression and correlation. Prerequisite: one year of calculus. Term offered varies.

SSIE 510 - Enterprise Systems Engineering
Credits: 3
Global competition is serving as a catalyst for continuous process improvement and the methodical enhancement of system-wide efficiencies. This is true in disciplines ranging from the medical arena and service-related systems to manufacturing. The underlying science that contributes to the systematic analysis of complex enterprise-wide systems is the focus of this course. Concepts that can be used in a synergistic manner to enhance an enterprise's efficiency and profitability will be addressed. Prerequisite: Graduate standing or permission of instructor. Term offered varies.

SSIE 520 - Modeling and Simulation
Credits: 3
Stochastic processes, review of probability and statistics, covariance, input data selection, random number generators, non-parametric tests for randomness, generation of random variates, output data analysis, terminating and non-terminating simulations, model validation, comparison of alternatives, variance reduction techniques, sensitivity analysis, experimental design and predictive models. Prerequisite: SSIE 505 or equivalent. Term offered varies.

SSIE 553 - Operations Research
Credits: 3
Operations research (OR) is devoted to the determination of the best course of action of a decision problem, given resource restrictions. Course provides the engineer with a firm grounding in the use of OR (mathematical) techniques devoted to the modeling and

analysis of decision problems. Techniques include the following: decision modeling; linear, integer and dynamic programming; emerging optimization techniques (e.g., genetic algorithms, simulated annealing, etc.); game theory; and queueing theory. Problem areas include the following: transportation models; project/production scheduling; inventory models; assignment problems. Prerequisite: Graduate standing or permission of instructor. Term offered varies.

SSIE 561 - Quality Assurance for Engineer
Credits: 3
Statistical quality control, designing for quality, process control, vendor and customer quality issues, quality costs and production. Prerequisites: SSIE 505 or permission of instructor. Offered in the Spring semester.

Required for Project Option:

SSIE 598 - MS Termination Project
Credits: Variable
In depth study and analysis of a selected topic in health or other service system, or manufacturing system as approved by the project advisor. Course requires a formal report, defense, and presentation. Term offered varies.

Required for Thesis Option:

SSIE 599 - Thesis
Credits: Variable
Training in the methods of research. Oral examination required. Minimum of six credits total. Bound thesis goes in University Libraries and department library. Term offered varies.

Required for Health Systems Track:

SSIE 537 - Ind & Sys Eng in Healthcare
Credits: 3
The application of industrial and systems engineering principles to continuous process improvement in the healthcare domain will be studied. Concepts that will be addressed will include, but not be limited to, process mapping, optimization, scheduling, lean and flexible systems, quality enhancement, simulation, supply chain management, inventory control, and information management. Prerequisite: graduate standing in the department or permission of the instructor. Cross listed with ISE 437. Term offered varies.

Required for Health Systems Track, Coursework-only Option:

SSIE 637 - Advanced Topics in Health Systems
Credits: 3
This course is intended as an advanced course in health systems and health care delivery. This course is oriented to provide the graduate students with an in-depth study of the application of industrial and system engineering principles for continuous process improvement in the health care. Concepts that are addressed and studied include, but are not limited to, process mapping, optimization, scheduling, lean and flexible systems, quality enhancement, simulation, supply chain management, inventory control, and information management. SSIE 537 or permission of the instructor. Term offered varies.

Required for Engineering Management Track:

SSIE 515 - Operations Mgmt Supply Chains
Credits: 3
This course deals with management of Supply chains, in particular, with the operational aspects. A broad overview of supply chains of a company is introduced, together with performance measures and needed critical success factors. The course concentrates on supplies, inventories, manufacturing, and logistics of distribution. Managerial aspects as well as mathematical modeling for better planning and control will be covered. Enabling the supply chains by enterprise resource planning modules and e-commerce will also be discussed. Prerequisite: SSIE 505 or equivalent. Cross listed with ISE 415. Term offered varies.

SSIE 522 - Advanced Decision Modeling
Credits: 3
Course provides a broad foundation in decision models and techniques used in industry and research for technical and managerial problems. Topics include decision theory, risk and uncertainty, value of information, preference measurements, prioritization of alternatives, multiple objectives and hierarchical decisions. Prerequisite: SSIE 505 or equivalent. Cross listed with ISE 422. Term offered varies.

SSIE 565 - Engineering Project Management
Credits: 3
Effective Engineering Project Management is critical to business and organizational success. This course will teach students both the technical and the sociocultural dimensions of Engineering Project Management. Students will be thoroughly trained in the following topics: Project Selection, Organization Structure and Culture, Project Definition, Project Time and Cost Estimation, Project Networks, Project Risk Management, Resource Scheduling, Project Crashing, Leadership, Team Management, Outsourcing, Progress Monitoring and Project Evaluation, and Project Closure. Microsoft Project software will be used to demonstrate activities, duration, task relationships, Gantt Charts, network diagrams and the Critical Path Method with case studies of contemporary engineering projects. Students will learn how to better control financial, physical, and human resources, improve stakeholder relations, shorten development times, lower costs, and increase profit. Spring or Summer, as needed.

Required for Engineering Management Concentration, Coursework-only Option:

SSIE 664 - Advanced Eng Management
Credits: 3
This course is specifically designed for engineering management students who are interested in advanced concepts related to leadership and management in highly technical and complex teams, departments, and organizations. Students will gain an advanced understanding of the engineering and management skills needed to excel in their future positions, create new opportunities, and grow as respected, competent engineering leaders, strategic planners, policy makers and engineers in today's complex systems and global economy. Also underlined are discussions of advanced engineering leadership attributes, steps to acquire these attributes, and strategies to develop core competencies. The course is organized into four major sections: Introduction to Management Challenges for Engineers, Functions of Engineering Management, Business Essentials for Engineering Managers, and Engineering Management in the New Millennium. Course contents are designed to achieve the T-shaped competencies with both broad based perspectives and

in-depth analytical skills. Such a background is viewed as essential for advanced engineering professionals and managers to exert a strong leadership role in the dynamic and challenging marketplace. This course also covers the latest research and development in the engineering management literature. A significant component of this course requires students to conduct and complete comprehensive literature reviews and detailed project case studies. Prerequisites: SSIE 565 Engineering Project Management. Term offered varies.

See Tables 1a, 1b, and 1c for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton

University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] we will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	60	120
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly

available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS ISE are as follows:

1. Students will be able to apply engineering mathematics and fundamental industrial and systems engineering methods.
2. Students will be able to apply industrial and systems engineering methods to advanced problems in their area of specialization.
3. Students will be able to effectively communicate research findings.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the School of Systems Science and Industrial Engineering conducts end-of-the-semester course reviews with the faculty, two times a year. During those meetings, we discuss how the student outcomes are measured in the courses, the overall scores for measuring those outcomes, problems/issues identified, and proposed solution to address those problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (No Track, All Options)

Program/Track Title and Award: Industrial and Systems Engineering, MS, All Options

Term 1: Fall Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505 Applied Probability & Statistics	3		
SSIE 510 Enterprise Systems Engineering	3		
SSIE Elective	3		
SSIE Elective	3		
Term credit total:	12		

Term 2: Spring Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520 Modeling & Simulation	3		SSIE 505 or equivalent
SSIE 561 Quality Assurance for Engineers, or SSIE 553 Operations Research	3		SSIE 505 or equivalent
SSIE Elective	3		
SSIE 599 Thesis (Thesis option) or SSIE Elective (Project option & Coursework-only option)	3		
Term credit total:	12		

Term 3: Fall Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE Elective, 600-level course	3		
SSIE 599 Thesis (Thesis option) or SSIE 598 MS Termination Project (Project option) or SSIE Elective (Coursework-only option)	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits:** 30	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** This program will culminate with a thesis, SSIE 599 (Thesis option), or a project, SSIE 598 (Project option), or with completion of a 600-level course from an approved list, which includes significant project-based coursework to serve as capstone for the program and termination requirement (Coursework-only option).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Health Systems Track, All Options)

Program/Track Title and Award: Industrial and Systems Engineering, with Health Systems Track, MS, All Options

Term 1: Fall Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505 Applied Probability & Statistics	3		
SSIE 510 Enterprise Systems Engineering	3		
SSIE Elective – Heath Systems	3		
SSIE Elective	3		
Term credit total:	12		

Term 2: Spring Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520 Modeling & Simulation	3		SSIE 505 or equivalent
SSIE 537 Industrial and Systems Engineering in Healthcare	3		
SSIE 561 Quality Assurance for Engineers, or SSIE 553 Operations Research	3		SSIE 505 or equivalent
SSIE 599 Thesis (Thesis option) or SSIE Elective (Project option & Coursework-only option)	3		
Term credit total:	12		

Term 3: Fall Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE Elective, 600-level course (Thesis option & Project option) or SSIE 637 Advanced Topics in Health Systems (Coursework-only option)	3		SSIE 537 (For SSIE 637)
SSIE 599 Thesis (Thesis option) or SSIE 598 MS Termination Project (Project option) or SSIE Elective (Coursework-only option)	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits:** 30	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** This program will culminate with a thesis, SSIE 599 (Thesis option), or a project, SSIE 598 (Project option), or with completion of SSIE 637 Advanced Topics in Health Systems, which includes significant project-based coursework to serve as capstone for the program and termination requirement (Coursework-only option).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1c – Curriculum Chart for the Out-of-State or International Program (Engineering Management Track, All Options)

Program/Track Title and Award: Industrial and Systems Engineering, with Engineering Management track, MS, All Options

Term 1: Fall Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 505 Applied Probability & Statistics	3		
SSIE 510 Enterprise Systems Engineering	3		
SSIE 553 Operations Research	3		
SSIE 565 Engineering Project Management	3		
Term credit total:	12		

Term 2: Spring Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 515 Operations Management of Supply Chains	3		
SSIE 520 Modeling and Simulation	3		SSIE 505 or equivalent
SSIE 522 Advanced Decision Modeling	3		SSIE 505 or equivalent
SSIE Elective, 600-level course (Thesis option) or SSIE Elective (Project option) or SSIE 664 Advanced Engineering Management (Coursework-only option)	3		SSIE 565 (For SSIE 664)
Term credit total:	12		

Term 3: Fall Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 599 Thesis (Thesis option) or SSIE Elective, 600-level course (Project option) or SSIE Elective (Coursework-only option)	3		
SSIE 599 Thesis (Thesis option) or SSIE 598 MS Termination Project (Project option) or SSIE Elective (Coursework-only option)	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits:** 30	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** This program will culminate with a thesis, SSIE 599 (Thesis option), or a project, SSIE 598 (Project option), or with completion of SSIE 664 Advanced Engineering Management, which includes significant project-based coursework to serve as capstone for the program and termination requirement (Coursework-only option).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Sarah Lam*, Professor & ISE Graduate Director	FT	SSIE 522 Advanced Decision Modeling	5%	PhD in Industrial Engineering, University of Pittsburgh	
Changqing Cheng, Associate Professor	FT	SSIE 505 Applied Probability and Statistics	5%	PhD in Industrial Engineering and Management, Oklahoma State University	
Srikanth Poranki, Adjunct Lecturer	FT	SSIE 510 Enterprise Systems Engineering	5%	PhD in Industrial and Systems Engineering, Binghamton University	
Daehan Won, Associate Professor	FT	SSIE 520 Modeling and Simulation SSIE 637 Advanced Topics in Healthcare	5%	PhD in Industrial and Systems Engineering, University of Washington, Seattle	
Neha Patankar, Assistant Professor	FT	SSIE 553 Operations Research	5%	PhD in Operations Research, North Carolina State University	
Chris Greene, Associate Professor	FT	SSIE 561 Quality Assurance for Engineers	5%	PhD in Systems Science, Binghamton University	
Melissa Zeynep Ertem, Assistant Professor	FT	SSIE 537 ISE in Healthcare	5%	PhD in Industrial and Systems Engineering, Texas A&M University	
Srikanth Rangarajan, Assistant Professor	FT	SSIE 565 Engineering Project Management	5%	PhD in Thermal Engineering, Indian Institute of Technology Madras	

Sung Hoon Chung, Associate Professor	FT	SSIE 515 Operations Management of Supply Chains	5%	PhD in Operations Research and Industrial Engineering, Pennsylvania State University	
Yong Wang, Associate Professor & Associate Director School of Systems Science and Industrial Engineering	FT	SSIE 664 Advanced Engineering Management	5%	PhD in Industrial Engineering and Operations Research, University of Illinois and PhD in Energy and Power Engineering, Huazhong University of Science and Technology	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	
TBH	FT		100%	PhD in Industrial and Systems Engineering or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Mechanical Engineering
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Mechanical Engineering b. Award: Master of Science c. SED Program Code: 82487 d. HEGIS Code: 0910.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location
If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.

B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of

	instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted]

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The program leading to the Master of Science degree in Mechanical Engineering (MS ME) provides the balance of advanced theory and practical knowledge necessary for either practice within the profession or for advancement to a doctoral program. Our students graduate prepared to continue their research in academic institutions or enter industry. Many have obtained positions as mechanical, manufacturing, project, design, and HVAC engineers with competitive companies, such as: Ansys, BAE Systems, Corning, Inc., Ford

Motor Co., General Electric, Honeywell, IBM, Intel, Knowles, Lockheed Martin, Microsoft, Nvidia, Raymond, and Seagate.

While there are no officially designated tracks or concentrations, students will choose an area of emphasis (AOE), based on their interests.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

ME 535 - Analytical Methods I
Credits: 3
A survey of important analytical and numerical methods for mathematical modeling of engineering and scientific problems. Solution of partial differential equations, including methods for linear equations, separation of variables and eigenfunction expansions ; review of multivariable calculus, including vector analysis; selected topics in linear algebra, integral transforms and numerical approximation techniques. The analysis methods are introduced in the context of typical engineering applications. Prerequisites: ordinary differential equations, ME 302. Offered in the Fall.

Choice of one (Computational Course):

- **ME 517 - Finite Element Analysis I**
  Credits: 3
  An introductory course in the finite element (FE) method dealing with the fundamental principles. Problems solved in the areas of solid mechanics, structures, fluid mechanics and heat transfer. Use of standard FE software such as ANSYS. Prerequisite: mechanics of materials or consent of instructor. Term varies.
- **ME 541 - Computational Fluid Dynamics**
  Credits: 3
  Fundamentals of computational fluid dynamics as they relate to compressible and incompressible flows as well as interfacial phenomena. The course involves both MATLAB implementations and the use of commercial software. Prerequisites: fluid mechanics and differential equations, or consent of instructor. Offered in the Spring.

Choice of one (Mechanics Course):

- **ME 511 - Elasticity**
  Credits: 3
  Topics covered include three-dimensional analysis and representation of stress and strain, development of governing equations of elastic media, applications of these equations to two- and three-dimensional problems. Prerequisite: mechanics of materials or consent of instructor. Prerequisite: ME 211 or equivalent. Offered in the Fall.
- **ME 514 - Plasticity**
  Credits: 3

Fundamentals of deformation and strength concepts of isotropic materials. Plastic stress-strain relations, criteria for yielding under multiaxial stress and properties of the yield surface under loading and unloading schemes. Hardness tests and forging problems. Elasto-plastic deformation of torsional and flexural members, hollow spheres and thick-walled tubes. Slip-line analysis for indentation problems, and limit analysis for frame structures and plates. Finite element theory with applications and practical programming experience in a convenient FEM code. Dynamic plasticity experimental methods are discussed. Prerequisites: ME 511 or consent of instructor. Term varies.

- **ME 518 - Applied Mechanics for Design**
  Credits: 3
  Stress and deformation analysis of structural elements such as bars, beams, trusses, and plates that are commonly used in mechanical design. The topics include review of equilibrium, compatibility and constitutive laws, yielding and failure, bending problems, energy methods, plate problems, contact and fracture problems, stability of elastic systems, and inelastic problems. Prerequisites: ME 211 or equivalent. Term varies.
- **ME 520 - Mechanics and MFG of Composite**
  Credits: 3
  Course introduces the concepts and advantages of composite materials to the graduate student and advanced senior students. It covers the nature of composites, mechanics of composites for analytical approaches to model the behavior of material, and the manufacturing of composites. Prerequisite: ME511 or consent of instructor. Term varies.
- **ME 524 - Adv. Mech. Vibrations**
  Credits: 3
  Fundamentals of dynamics as applied to mechanically vibrating systems. Equations of motion for systems with multiple degrees of freedom are developed to determine natural modes of vibration of discrete systems. Approximate methods of solution, e.g., Rayleigh-Ritz, Galerkin's method, etc., are discussed. Vibration of continuous systems, e.g., free and forced vibration of strings, bars, beams and plates are considered. Numerical approaches, including the finite element method, are applied to continuous systems. Prerequisite: ME 421 or equivalent and ME535 or ME533 or consent of instructor. Course is offered every spring semester.
- **ME 550 - Intro To Fluid Dynamics**
  Credits: 3
  A foundation for the analysis of inviscid and viscous incompressible flow is developed. Foundation topics include Eulerian description, material derivative, relative motion (strain-rate tensor), vorticity, Newtonian fluid model. Equations of motion are formulated, leading to Euler and Navier-Stokes equations. Potential flow solutions are discussed. Viscous flow is studied using Stokes, lubrication and boundary layer approximations. Prerequisite: graduate standing or consent of instructor. Term varies.

Required for Thesis Option:

ME 599 - Thesis
Credits: Variable
Training in the methods of research. Varied computer modeling, hardware development and experimentation as determined by the MSME thesis committee. Oral examination required. Bound thesis goes in University Libraries.

Required for Project Option (Choice of one):

- **ME 598 - ME Projects**
  Credits: Variable
  Literature review, mechanical engineering development or other projects as defined by the project committee. Formal bound report for department library.
- **ME 594 - Industrial Internship**
  Credits: Variable

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton

University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and

students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance
The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS ME are as follows:

1. Students can utilize applied mathematics, computational methods and engineering methods to solve Mechanical Engineering problems.
2. Students can perform directed research culminating in an original contribution to an area of emphasis in Mechanical Engineering.
3. Students can clearly and convincingly articulate their research results.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the Department of Mechanical Engineering conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the department chair. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (Thesis Option)

Program/Track Title and Award: Mechanical Engineering, MS (Thesis Option)

Term 1: Fall 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Mathematics Course (ME 535 – Analytical Methods I)	3		
Mechanics Course (ME 511, ME 514, ME 518, ME 520, ME 524, or ME 550)	3		
Area of Emphasis Course	3		
Technical Elective	3		
Term credit total:	12		

Term 2: Spring 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Computational Course (ME 517 or ME 541)	3		
Area of Emphasis Course	3		
Area of Emphasis Course	3		
Technical Elective	3		
Term credit total:	12		

Term 3: Fall 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Thesis (ME 599)	6		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** Oral defense and submission of MS thesis (ME 599).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Project Option)

Program/Track Title and Award: Mechanical Engineering, MS (Project Option)

Term 1: Fall 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Mathematics Course (ME 535 – Analytical Methods I)	3		
Mechanics Course (ME 511, ME 514, ME 518, ME 520, ME 524, or ME 550)	3		
Area of Emphasis Course	3		
Technical Elective	3		
Term credit total:	12		

Term 2: Spring 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Computational Course (ME 517 or ME 541)	3		
Area of Emphasis Course	3		
Area of Emphasis Course	3		
Technical Elective	3		
Term credit total:	12		

Term 3: Fall 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Area of Emphasis Course	3		
Project (ME 598) or Internship (ME 594)	3		
Term credit total:	6		

Term 4:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 5:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 6:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 7:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Term 8:			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites)**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** Termination project submitted at the end of ME 598 or ME 594

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Sherry Towfighian*, Professor and Graduate Studies Director	FT	ME 527 Mechatronics	2%	PhD in Mechanical Engineering, University of Waterloo, Canada	
Jingzhou Zhao, Assistant Professor	FT	ME 582 Advanced Computer Aided Engineering	2%	PhD in MEMS / Nanotechnology, University of California, Los Angeles	
Jalil Razavi, Assistant Professor	FT	ME 584 Design of Mechanical Elements	2%	PhD in Engineering (mechanics and materials), University of Georgia	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	
TBH	FT		100%	PhD in Mechanical Engineering or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.

Out-of-State and International Academic Program Proposal Form
Form 8A
Version 20104-11-17

I. Policy

This form should be used by SUNY institutions required to obtain SUNY System Administration authorization to offer a credit-bearing academic program that leads to a degree or certificate at a location outside New York State. Such programs are not required to be registered by the New York State Board of Regents, but they are subject to approval by the SUNY Board of Trustees under Trustees' Resolution 2011-021.

Academic programs subject to Trustees' Resolution 2011-021 are those that:

1. Are credit-bearing;
2. Lead to a degree or certificate;
3. Enroll students in a location outside New York State; and
4. Reflect a registered program offered by the SUNY institution in New York State.

Board policy applies to academic programs that are stand-alone programs as well as programs offered through partnerships with other institutions, such as multi-institution programs, dual-degree programs, certain articulation agreements, and other partnership arrangements that deliver SUNY credit at a location outside NYS and result in the award of an academic degree or certificate. As a general rule, institutions should not expand internationally if the program is:

1. Seeking initial specialized/programmatic accreditation; or
2. Registered with restrictions or progress reports due to the New York State Education Department.

If the same out-of-state or international program is offered at multiple locations, each location is considered a separate program.

This form **does not** apply to study abroad programs that are already approved by SUNY, to articulation agreements where no SUNY credit is delivered at the out-of-state location, or to academic programs registered in New York State that are delivered entirely by distance education to individual students who are not enrolled as part of an out-of-state or international partnership agreement.

For programs involving an articulation agreement with an international partner whereby 50% or more of the total number of credits toward the degree or certificate are transferred to the SUNY institution from an overseas entity, the International Academic Program Proposal for Articulation Agreements with Partner Institutions (Short Form) and procedures described therein must be followed. (Articulation agreements with international partners involving less than 50% of the total number of credits transferred to the SUNY institution are not subject to review or approval.)

An out-of-state or international program must not be advertised or enroll students until SUNY has approved it, unless the program was offered prior to spring 2012 and is covered by the Policy Transition Plan.

II. Procedures

The institution's Chief Academic Officer submits a Program Announcement form (PA for undergraduate programs) or a Letter of Intent (LI for graduate programs) with a cover letter to: program.review@suny.edu and follows the same process that is used for new programs planned for New

York State. Once the PA or LI process is completed, the Chief Academic Officer emails a completed version of this form, and all required attachments, to the same email address, along with a cover letter from the institution's Chief Academic Officer to the SUNY Provost for review and approval by the Provost's Office and the Office of International Programs. Part A, Item B-1, Part C and Part D of this form are required for all proposed programs. Items B-2 and B-3 are only required when a proposed location has not already received SUNY's approval. It is recommended that prior to submitting the PA/LI form, notice be provided to the SUNY Senior International Officers' listserv early in the program development stage to minimize duplication of effort.

Part A. Basic Program Information

A-1. Program Type (check one)	_X_General academic program __ Program prepares teachers or educational leaders for certification in New York State __ Program prepares graduates for professional licensure in New York State
A-2. Home Institution Name and Address	Binghamton University 4400 Vestal Parkway East PO Box 6000 Binghamton, NY 13902-6000
A-3. Program Title	Systems Science
A-4. Program Award(s)	Master of Science
A-5. Total Number of Credits	30
A-6. Registered Program at Home Institution *(The out-of-state program proposed in Items A-3 should be the same as this registered program.)*	a. Title: Systems Science b. Award: Master of Science c. SED Program Code: 13740 d. HEGIS Code: 4904.00
A-7. Program Format	*Check all that apply.* [X]Day [ ]Evening [ ]Weekend [ ]Evening/Weekend [ ]Distance Education [X]Full-Time [ ]Upper Division
A-8. Program Mode	[X]Standard [ ]Independent Study [ ]Accelerated Credit by Exam or Experience
A-9. Language(s) of Instruction (if other than English)	
A-10. Preferred Start Date	Fall 2026
A-11. Campus Contact	Name and title: Terrence Deak, Vice Provost and Dean of The Graduate School Telephone: 607-777-2077 E-mail: tdeak@binghamton.edu
A-12. Chief Executive or Chief Academic Officer Approval	**Signature affirms that the proposal has met all applicable campus administrative and shared governance procedures for consultation, and the institution's commitment to support the proposed program.** ***E-signatures are acceptable.*** Name and title: Donald E. Hall, Provost and Executive Vice President for Academic Affairs Signature and date:

Part B. Out-of-State or International Location *If this is the institution's first program submitted for this location, complete all items (B-1 through B-3) in Part B. If SUNY System Administration has previously approved a program at this location, skip Items B-2 and B-3 and go to Part C.*	
B-1. Out-of-State Location Where Program Will Be Delivered	Street Address: [redacted]
B-2. Authorization(s) to Offer the Program in the Out-of-State Jurisdiction *(as applicable)*	List here, and attach evidence of authorization(s) by the governing authority of the out-of-state or international jurisdiction to offer the program at that location, **or** Attach evidence that no authorization is required, **and** Indicate when it is anticipated that this location will be approved by MSCHE as an additional location or branch campus. Upon approval of this proposal, [redacted] has agreed to rent space at the listed address so Watson College can offer the program at the stated location. MSCHE will approve the location 90 days after SUNY board approval.
B-3. Administrative and Governance Capacity	Describe in specific detail how this location will be integrated into the administrative and governance processes of the home campus and be overseen by the home campus. Include the chain of responsibility for administration, governance and quality assurance at this location. Explain how this location's data will be included in the campus's data submissions to the SUNY Institutional Research and Information System (SIRIS). Binghamton University is responsible for the academic offerings and [redacted] is responsible for the local logistics at the additional location. **Governance and Oversight** The Watson College Dean will designate a site director to oversee all the academic operations at the additional location. Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and the additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of

	instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program. Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing. Advisory Boards: There will be a separate Advisory Board for the additional campus that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted] Students who attend this location will apply to Binghamton University the same way current graduate students apply. Once enrolled, they will be in all Binghamton University student information systems. This will ensure these students will be included in the campus's data submissions to SIRIS. Administrative Support at the Additional Location: [redacted] will focus on operational and logistical aspects at the [redacted] location. This includes providing the necessary physical infrastructure such as land, rental space, utilities, and facilities to host the programs. It will manage the recruitment and administration of non-teaching staff, support the marketing and promotion of degree programs, and assist Binghamton with recruitment and admission processes. [redacted] will also be responsible for the day-to-day administration of the [redacted] campus and offer student support services, such as counseling and career guidance, in partnership with Binghamton University.

Part C. Partnership Entities

C-1. Out-of-State Partner Entity *(Enter NONE for "Entity Name" if no partner is involved.)*	Entity Name: [redacted] Street Address: [redacted] Type of Institution: __ Public _X_ Private __ Proprietary __ Non-degree __ Other (describe)

C-2. Evidence of Partner Entity's Quality	List here and attach evidence to demonstrate that the partner entity is reputable, reliable, legitimate and financially stable. [redacted] [redacted] has built a strong global brand that attracts students from across the world (at least 55 countries). It has established engagement with over 400 universities worldwide. Collaborating with [redacted] will allow Binghamton's brand name to extend to [redacted] vast network and the degree programs both at the additional location and at our main campus could thereby draw students from a geographically diverse pool. [redacted] is a privately held company and operates independently, with no financial, administrative, or organizational ties to the Government of [redacted] The company is a private entity and is not affiliated with, supported by, or governed by any [redacted] governmental body or agency. [redacted] **National and Global Rankings:** [redacted] **Ranking and Recognition:** [redacted].

C-3. Agreements with Out-of-State Partner Entity *(All agreements must be in English. See NOTE with examples of issues to be covered in partnership agreements.)*	List titles of all drafted or executed Memoranda of Understanding (MOUs), contracts, partnership agreements or other formal agreements with the Partner Entity and third-party providers, and attach a copy of each one. An MoA will be signed between Binghamton and [redacted] early this summer once this proposal is approved.

NOTE: Examples of issues for inclusion in partnership agreements:

1. *Primary contacts for agreement*
2. *Signatures of both parties demonstrating agreement with the terms*
3. *Curriculum for this program with each partner's role in delivering coursework specified*
4. *Modifications to agreements*
5. *Responsibility for obtaining required authorizations and complying with legal requirements including taxes, employment visas and benefits, banking, etc.)*
6. *Responsibility for marketing and advertising*
7. *Guidelines for proper use of both the SUNY and the campus name, including logos and related identifiers.*
8. *Ownership and maintenance of equipment*
9. *Catalog or comparable information for students*
10. *Student admissions, orientation and advising*
11. *Student suspension, withdrawal, dismissal*
12. *Tuition and fees and all other student charges*
13. *Expected numbers of students*
14. *Language(s) of instruction and assessment of students' language proficiency*
15. *Student housing*
16. *Responsibility for transcripts and students' academic records*
17. *Immigration issues*
18. *Employment agreements (terms, conditions, taxes, benefits)*
19. *Monetary exchanges between partners (Be very specific about who pays for what.)*
20. *Facilities (purchase, lease) and all related issues (taxes, health and safety, etc.)*
21. *Liability, claim, loss, damage, suit, judgment arising from acts of employees and no right of liability regarding agreement itself*
22. *Insurance*
23. *Jurisdiction for dispute resolution*
24. *Non-discrimination*
25. *Time period of agreement and renewal*
26. *Emergency and evacuation plans*
27. *Exit strategy if plans do not materialize, including teach-out agreements for enrolled student*

Part D. Program Details

D-1. Program Description

a. Describe the program and its purpose, including its educational and career goals and objectives.

The Master of Science in Systems Science (MS SS) degree program provides students with concepts, principles, and methods for understanding, modeling, analyzing, optimizing, and improving various forms of complex systems. Such systems thinking and problem-solving skills will be invaluable assets when students blaze new trails in any scientific, engineering, business, or management professions in today's increasingly complex world.

b. Provide a catalog description of each course required for completion of the program, and complete the Curriculum Chart (Table 1) at the end of this form to show, as applicable, general education courses (by category) and liberal arts and sciences courses, as well as external instruction, such as internships and clinical experiences. Note which courses, if any, will differ from those offered on the home campus and provide reasons for the differences.

SSIE 500 - Computational Tools
Credits: 3
This course will introduce students to several programming languages and basic programming techniques, with the focus on developing practical code-writing skills for scientific/engineering problem solving. Topics to be covered include: manipulation with numbers, strings, variables, lists, and arrays; creating functions; flow control; data manipulation; imperative, functional, and object-oriented programming; visualization; and presentation. LaTeX will also be introduced for typesetting professional technical documents. This course will also discuss information theory as a sample application area of computational tools. Topics include: information and entropy, mutual information, information coding and compression, Markov information source model, statistical complexity, and computational complexity. Students will write codes in their preferred language to calculate various information theoretic measurements of real-world data. Prerequisite: Graduate standing or permission of instructor. Term offered varies.

SSIE 501 - Intro to Systems Science
Credits: 3
Includes a general characterization of systems science as a field of study; intellectual roots, philosophical assumptions and historical development of the field; an overview of fundamental systems concepts, principles and laws; and a survey of application areas of systems science and its implications for other fields of study. Prerequisite: Graduate standing or permission of instructor. Cross-listed with ISE 440. Term offered varies.

SSIE 505 - Applied Probability & Statistics
Credits: 3
Basic concepts in probability and statistics required in the modeling of random processes and uncertainty. Bayes' formula, Bayesian statistics, independent events; random variables and their descriptive statistics; distribution functions; Bernoulli, Binomial, Hypergeometric, Poisson, normal, exponential, gamma, Weibull and multinomial distributions; Chebyshev's theorem; central limit theorem; joint distributions; sampling distributions; point estimation; confidence intervals; student-t, x squared and F distributions; hypothesis testing; contingency tables, goodness of fit, non-parametric statistics, regression and correlation. Prerequisite: one year of calculus. Term offered varies.

SSIE 520 - Modeling and Simulation
Credits: 3
Stochastic processes, review of probability and statistics, covariance, input data selection, random number generators, non-parametric tests for randomness, generation of random variates, output data analysis, terminating and non-terminating simulations, model validation, comparison of alternatives, variance reduction techniques, sensitivity analysis, experimental design and predictive models. Prerequisite: SSIE 505 or equivalent. Term offered varies.

SSIE 523 - Collective Dyn of Complex Systems

Credits: 3
Introduces students to the study of collective dynamics demonstrated by various natural, social and artificial complex systems, i.e., systems made of a massive amount of lower-level components interacting with each other in a nonlinear way. Discusses several computational modeling frameworks, including agent-based models (particle models, ecological and evolutionary models, game-theoretic models), complex network models (small-world and scale-free networks, dynamical networks, adaptive networks), and spatial models (cellular automata, partial differential equations). Also discusses mathematical concepts and tools to analyze and understand their behavior, e.g., mean-field approximation, linear stability analysis, scaling, renormalization, bifurcation, chaos, pattern formation, and phase transition. Python will be used as a primary computer programming language for modeling and simulation. Prior computer programming experience is helpful, but not strictly required. Prerequisites: Graduate standing and basic knowledge of calculus, linear algebra and probability theory, or permission of instructor. Cross-listed with ISE 423. Term offered varies.

Required for Project Option:

SSIE 598 - MS Termination Project
Credits: Variable
In depth study and analysis of a selected topic in health or other service system, or manufacturing system as approved by the project advisor. Course requires a formal report, defense, and presentation. Term offered varies.

Required for Thesis Option:

SSIE 599 - Thesis
Credits: Variable
Training in the methods of research. Oral examination required. Minimum of six credits total. Bound thesis goes in University Libraries and department library. Term offered varies.

Required for Health Systems Track:

SSIE 537 - Ind & Sys Eng in Healthcare
Credits: 3
The application of industrial and systems engineering principles to continuous process improvement in the healthcare domain will be studied. Concepts that will be addressed will include, but not be limited to, process mapping, optimization, scheduling, lean and flexible systems, quality enhancement, simulation, supply chain management, inventory control, and information management. Prerequisite: graduate standing in the department or permission of the instructor. Cross listed with ISE 437. Term offered varies.

Required for Health Systems Track, Coursework-only Option:

SSIE 637 - Advanced Topics in Health Syst
Credits: 3
This course is intended as an advanced course in health systems and health care delivery. This course is oriented to provide the graduate students with an in-depth study of the application of industrial and system engineering principles for continuous process improvement in the healthcare industry. Concepts that are addressed and studied include, but are not limited to, process mapping, optimization, scheduling, lean and flexible

systems, quality enhancement, simulation, supply chain management, inventory control, and information management. SSIE 537 or permission of the instructor. Term offered varies.

See Tables 1a and 1b for program curriculum.

Binghamton and [redacted] will be cognizant of Federal Export Control Regulations that could impact academic research and teaching as it relates to restrictions on transfer of items, technology, and software. All faculty and staff at the additional location will be made aware of potential restrictions and will be asked to take actions to make sure they do not inadvertently violate university requirements. Safeguards will be put in place via required annual training. We will ensure compliance with both local and US regulations.

Complete the Curriculum Chart (Table 1) at the end of this form.

D-2. Mission

a. Explain how this program contributes to the home institution's mission, strategic plan and reputation.

Binghamton's vision identifies internationalization as one of its six priorities (SP6) in its institutional Road Map to Premier strategic plan. The plan's ambitious internationalization goals include enhancement of the university's global footprint and development of a global brand that will position Binghamton University as a preferred destination for prospective students looking for a top-value international education. Binghamton's stated motto for internationalization is to "Support, promote and enhance strategic internationalization efforts through high-impact learning, teaching, research and engagement."

b. Explain how this program contributes to the State University of New York's mission, strategic plan and reputation.

The additional location offering will extend the institution's global reach, enhance its academic offerings, and increase international student enrollment. This initiative aligns with Binghamton's and SUNY's mission to foster global engagement and provide high-quality education in a globalized world.

A partnership with [redacted] establishing degree offerings in [redacted] would significantly enhance Binghamton and the SUNY system's presence globally. With [redacted] established reputation in [redacted] top ratings in national and international rankings, and its strong network, *offering Binghamton's approved degree programs* within Watson College at an additional location with [redacted] will allow students to obtain education from a top international university without leaving their home country. This partnership would also help Binghamton University expand its influence in one of the fastest-growing educational markets in the world.

[redacted]

[redacted]

D-3. Market

a. **Need.** Provide evidence that there is a market for this program. Include descriptions of sources of evidence.

[redacted]

b. **Coordination.** If other SUNY campuses offer similar programs in the same geographic region, please identify those campuses and programs, explain why you have concluded that this program is not duplicative or redundant, and attach letters of support demonstrating that the other campuses agree with your conclusion.

We are not aware of any other SUNY program offerings in [redacted]

c. **Marketing and Advertising.** Explain how prospective students will learn about this program and its admissions and graduation requirements.

Binghamton University has dedicated campus-wide and college-level graduate recruiting professionals. Similar to current practices of student outreaching and marketing, based on coordination between the services of Watson Graduate Recruitment, Office of Graduate Recruitment and Admissions, and Communications & Marketing, along with co-branding with [redacted] We will leverage the expertise of the highly successful [redacted] to also promote and market the additional location offerings across South Asia.

Binghamton has a robust system for developing pipelines and recruiting top talent students into its graduate programs. The best practices will be continued for this additional location.

d. **Projected Enrollment.** In the table below, provide projected enrollment (number of headcount students) for both full-time and part-time students and explain how the projections were determined.

Projected Number of Out-of-State or International Students		
Number of Students	**When the program begins**	**After five years**
Full-time students:	40	80
Part-time students:		
Total students:		

e. **Risk Analysis.** Explain factors that could reduce demand for this program and describe plans for responding to below-expected enrollment, including teach-outs of enrolled students if the program proves to be unsustainable.

As we will be offering programs in [redacted] and students will be recruited from the country itself, including partners, the risk is minimal. The main risk is from competition that could arise from other US public universities that will soon set up similar offerings. The risk is mitigated by the fact that Binghamton will have first mover advantage, support from our top ranked partner, [redacted] which has large undergraduate programs, and interest from prospective students due to the reputation of Binghamton's public ivy status.

[redacted]

[redacted]

D-4. Quality

a. **Faculty Responsibility.** Describe the home campus faculty's role in planning for this program at this location.

See Appendix 1: A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

b. **Admissions.** Describe the admissions requirements and procedures for this program and how they differ, if at all, from requirements at the home campus. Explain how prospective students will be assessed for proficiency in the language(s) of instruction, including, as

applicable, language proficiency exams and cut scores that will be used, and how they will be used.

Students who attend this location will apply to Binghamton University and be evaluated the same way current graduate student applications are processed.

c. **Academic and Student Support Services.** Describe the academic and student support services available to help students succeed in this program, and how these services will be made available to all students enrolled at this location.

The program will use several strategies to promote student connectivity and engagement. Academic advising will be conducted by the Program Director at the additional location, faculty advisors at the additional location, and also the Graduate Director at Binghamton University via emails, in-person visits, and Zoom meetings.

Each fall semester a graduate student orientation will be held both via in-person and Zoom options.

The Watson Career and Alumni Connections Office will provide career guidance and professional advice via online, one-on-one meetings with students.

Joint Activities: Binghamton University already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, and related activities, which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with faculty at the additional location to ensure strong collaboration and uniform instructional standards across both campuses.

Several of Binghamton University's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 200 companies that also have presence in [redacted]

d. **Library Resources.** Describe the library resources for this program and how these resources will be made available to all students enrolled at this location.

The Binghamton University Libraries provides a variety of services and resources designed to enrich the learning experience for students and provide support to students in all of the

engineering and computing programs offered by the Thomas J. Watson College of Engineering and Applied Science.

Engineering and Applied Science Collection and Resources

The Binghamton University Libraries holdings include more than 180,000 journal subscriptions, 225 subscription databases, and 3.2 million print and electronic books. Most engineering databases and journals are available electronically. The engineering and applied science databases include:

- ACM Digital Library
- AccessScience (McGraw-Hill)
- American Chemical Society Publications
- Applied Science & Technology Source Ultimate
- ASME Digital Library
- CAS Sci-Finder
- Compendex (Engineering Village)
- Embase
- Emerald Library
- IEEE/IET Digital Library
- IOP Science
- JoVE Research Unlimited
- Optica Publishing Group Journals
- Royal Society of Chemistry Journals
- ScienceDirect
- SPIE Digital Library
- SpringerLink
- Web of Science
- Wiley Online Library

Watson College students and faculty can access the Libraries' catalog and resources via the Libraries' website (https://www.binghamton.edu/libraries/). The Libraries provide a dynamic search tool known as Find It!, which is a "one-stop" discovery and delivery service. Find It! searches scholarly resources from the Libraries' catalog, its digitized collections, and a mega-aggregated index of millions of scholarly resources, which allows the search to expand beyond the Libraries' collection. Off-campus access to electronic resources is granted by the Libraries proxy server which is authenticated by the University's campus-wide computer account login. Additionally, the Libraries offer a browser extension, LibKey, which connects users to full-text copies of library resources while they are browsing the internet. Google Scholar is a popular free database used by Watson students and faculty, and library full-text links are available within Google Scholar. Many faculty and students also utilize publicly available resources, including books, papers and open-source software, as supplementary material for teaching and learning.

Library Instruction & Research Assistance

The Libraries provide virtual reference service via email, online chat, text, phone, and Zoom.

There is an Engineering Librarian who offers curriculum-integrated instruction and specialized research consultations for engineering faculty and students. They offer subject specific instruction in the use of information resources, including technical reports, patents, and standards. In addition, 12 online engineering research guides created and maintained by the Engineering Librarian provide a list of engineering resources (including journals, e-books, databases, etc.) and library services. Many library tutorials are also available, including tutorials on engineering-specific resources. This instruction and tutorials are available online and/or via Zoom meeting.

e. **Facilities.** Describe the instructional and related facilities, as well as equipment, that will be used for this program to ensure its success.

Students will have access to Watson College's information technology (IT) services via the internet. Students will be able to login using their Binghamton University ID to access lab software and other software programs as needed.

[redacted] plan for the building is to have technology support for state-of-the-art classrooms, meeting rooms, conference rooms, and facilities. They will provide high speed internet connectivity throughout the campus, in meeting rooms, conference rooms, faculty offices, and administrative offices on par with global standards.

Learning Management Systems (LMS): The plan will be to use Brightspace for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

f. **Program Accountability, Assessment and Accreditation.** List the student learning outcomes for this program at this location and describe how they will be assessed as an integral part of the home campus's program review and evaluation process, which must meet the standards of SUNY policy and the Middle States Commission on Higher Education (MSCHE) for assessment of general education and the disciplines. If the registered program at the home campus is accredited by a specialized or programmatic accreditation agency, indicate when that accreditation is expected to apply to this location.

The Student Learning Outcomes for the MS SS are as follows:

1. Students will be able to apply engineering mathematics and fundamental systems science methods.
2. Students will be able to apply systems science methods to advanced problems in their area of specialization.
3. Students will be able to effectively communicate research findings.

Several evaluation tools will be used to monitor and evaluate the effectiveness of the program:

- Student Opinion of Teaching (SOOT) survey will be administered for all courses. The survey uses a Likert Scale to assess students' perception of the quality of course preparation and teaching, instructor's knowledge in the course materials, and usefulness of instructional materials and assignments.
- Learning objectives will be assessed through evaluation measures used in classes, including assignments, exams, etc.
- Students completing the program will be included in the university's established post-graduation program evaluations.

Additionally, the School of Systems Science and Industrial Engineering conducts end-of-the-semester course reviews with the faculty, two times a year, in accordance with the general Middle States assessment process. During those reviews, the student outcomes for the courses will be measured, the overall scores will be determined, problems/issues will be identified, and solutions will be proposed to address the problems/issues.

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional campus with peer institutions and the Binghamton main campus.

Administrative Review: An annual review will be conducted to identify areas where operational improvements can be made. Feedback will be obtained from students in the program as part of this process. The communication efficacy between the home campus and the additional location will be evaluated. Metrics regarding student performance will be

compared between the home campus and the additional location in areas such as the use of resources, academic support, attendance, outcomes, career placement and advising.

g. **Financial Resources.** Explain how revenues will be adequate to cover the expenses of this program so that the program is self-sustaining. New York State funds must not be used to support academic programs conducted outside of New York State. Then complete Table 2 (expenses), Table 3 (revenue), and Table 3a (tuition rates and fees) to summarize your analysis. Attach a spreadsheet with itemized details for Table 2.

Binghamton University will identify resources to fund the initial setup and startup of the operations. The academic business plan has been developed to incorporate detailed feedback from our campus Business Office and partners at [redacted] As shown in the tables, the program will be self-sustaining after a few years.

Complete Tables 2, 3 and 3a at the end of this form.

h. **Faculty Qualifications.** Describe how faculty at this location will be hired and supervised. In addition, complete Table 4 to identify all faculty who will be teaching in this program. Part A is for faculty employed at the home institution; Part B is for faculty employed by a partner entity.

[redacted] has a highly-talented pool of academics, educated and experienced both in [redacted] and abroad. Faculty could be hired from this pool, with the same qualifications as needed by the home campus. In addition, faculty from Binghamton will serve as anchor faculty for many course groups.

All faculty meetings that have discussions on curriculum will involve faculty from home and the additional location.

Faculty Qualifications: Faculty at the additional site will be required to meet the same high standards to qualify to teach our curriculum as the home location.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be training and professional development programs for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchanges for cross-campus exposure and experience sharing.

Joint Oversight Committees: A program coordinator will be designated from amongst the faculty at the home institution and bear primary responsibility for the quality, success, and

alignment with institutional standards. The program coordinator will report to the school director. In addition, there will be joint oversight committee(s) with faculty and staff members from both the main campus and additional location for quality assurance. A set of course coordinators from the main campus will be responsible for ensuring the consistency in quality of instruction in the degree program at the additional location. Additionally, an annual comprehensive assessment of the program's performance will be conducted, with a focus on evaluating outcomes and implementing any necessary improvements to uphold the academic rigor and reputation of the program.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

Complete Table 4 at the end of this form.

Attach CVs for all faculty to be employed by the partner institution.
CVs must be provided in English.

Table 1a – Curriculum Chart for the Out-of-State or International Program (No Track, All Options)

Program/Track Title and Award: Systems Science, MS, All Options

Term 1: Fall Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 500 Computational Tools	3		
SSIE 501 Intro to Systems Science	3		
SSIE 505 Applied Prob & Stats	3		
SSIE Elective	3		
Term credit total:	12		

Term 2: Spring Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520 Modeling and Simulation or SSIE 523 Collective Dyn of Complex Sys	3		SSIE 505 (for SSIE 520)
SSIE Elective	3		
SSIE Elective	3		
SSIE 599 Thesis (Thesis option) or SSIE Elective (Project option & Coursework-only option)	3		
Term credit total:	12		

Term 3: Fall Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE Elective (600-level; With project for Coursework-only option)	3		
SSIE 599 Thesis (Thesis option) or SSIE 598 MS Termination Project (Project option) or SSIE Elective (Coursework-only option)	3		
Term credit total:	6		

Term 4: Spring Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** SSIE 599 Thesis (6 credits) (Thesis option), or SSIE 598 MS Termination Project (Project option), or the 600-level elective course which includes significant project-based coursework to serve as capstone for the program (and termination requirement).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 1b – Curriculum Chart for the Out-of-State or International Program (Health Systems Track, All Options)

Program/Track Title and Award: **Systems Science, with Health Systems Track, MS, All Options**

Term 1: Fall Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 500 Computational Tools	3		
SSIE 501 Intro to Systems Science	3		
SSIE 505 Applied Prob & Stats	3		
SSIE Elective – Health Systems	3		
Term credit total:	12		

Term 2: Spring Year 1			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE 520 Modeling and Simulation or SSIE 523 Collective Dyn of Complex Sys	3		SSIE 505 (for SSIE 520)
SSIE 537 Industrial and Systems Engineering in Healthcare	3		
SSIE Elective	3		
SSIE 599 Thesis (Thesis option) or SSIE Elective (Project option & Coursework-only option)	3		
Term credit total:	12		

Term 3: Fall Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
SSIE Elective (600-level) (Thesis option & Project option) or SSIE 637 Advanced Topics in Health Systems (Coursework-only option)	3		
SSIE 599 Thesis (Thesis option) or SSIE 598 MS Termination Project (Project option) or SSIE Elective (Coursework-only option)	3		
Term credit total:	6		

Term 4: Spring Year 2			
Course Number & Title	**Credits**	**New**	**Co/Prerequisites**
Term credit total:			

Program Total:	**Total Credits: 30**	**Identify the required comprehensive, culminating element(s), such as a thesis or examination, including course number(s), if applicable:** SSIE 599 Thesis (6 credits) (Thesis option), or SSIE 598 MS Termination Project (Project option), or SSIE 637 Advanced Topics in Health Systems which includes significant project-based coursework to serve as capstone for the program (and termination requirement) (Coursework-only option).

New: X if new course **Prerequisite(s)**: list prerequisite(s) for the listed courses

Table 2 – Projected Expenses for the Out-of-State or International Program

Complete Table 2 to show all expenses related to the program.

Table 2 – Projected Program Expenses (in US Dollars)			
Projected Expenses	**Start-up**	**When the program begins**	**After five years**
Personnel *(Include all personnel related expenses, such as salaries, fringe benefits and other related costs such as taxes, retirement contributions, workers compensation insurance,and unemployment insurance.)*		$205,000	$410,000
Library		$6,000	$6,000
Equipment and Laboratories		$75,000	$100,000
Facilities *(Include all facilities-related expenses, such as capital investments, debt repayment, leases, upkeep and maintenance, and liability insurance.)*		$10,000	$15,000
Other Operating Expenses *(Include all other expenses here, including travel and home campus administration.)*		$125,000	$171,500
TOTAL:		$421,000	$702,500

Attach a spreadsheet that itemizes each expense item included in Table 2.

Table 3 and Table 3a - Projected Revenue/Resources and Tuition/Fee Rates for the Out-of-State or International Program

In Table 3, list all sources of revenue for the program. New York State funds shall not be used for out-of-state programs.

Table 3 - Projected Revenue/Resource for the Program					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Revenue:	$678,600	$1,357,200	$1,357,200	$1,357,200	$1,781,325
Partner Contribution:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Funded Amount					
In-kind Amount					
Total Contributions:	$1,050,000	$887,550	$891,996	$1,098,738	$1,378,245
Other Revenue:					
List Sources					
Total Other Revenue:					
TOTAL:	$1,728,600	$2,244,750	$2,249,196	$2,455,938	$3,159,570

In Table 3A, indicate the tuition and fee rates used to calculate tuition revenue above. Tuition rates should correspond to those adopted by the SUNY Board of Trustees, unless SUNY has approved a discounted tuition rate for part-time, non-matriculated, out-of-state students according to University policy here (and in Memorandum to Presidents 98-01).

Table 3a. Tuition and Fee Rates					
Revenue/Resources	**1st Year Academic Year**	**2nd Year Academic Year**	**3rd Year Academic Year**	**4th Year Academic Year**	**5th Year Academic Year**
Tuition Rate	$11,310	$11,310	$11,310	$11,310	$11,876
General Fee Rate					
These tuition and fee rates are for: (Check one) __One term _X_One academic year __ Per credit					

Table 4 – Faculty

Provide information on all faculty members who will be teaching in the program. Part A is for faculty employed by the home institution; Part B is for faculty employed by a partner entity. If a faculty member is "To Be Hired" indicate "TBH" under the "Faculty Member Name" column and provide the rank and qualifications for the hire. Out-of-state and international faculty degrees must be comparable to degrees for faculty in New York State. Insert additional rows as needed.

The Binghamton faculty members listed in this table will participate in class activities, for some select modules, in online-mode, occasionally.

Part A. Faculty Employed by the Home Institution					
Faculty Member Name, Rank, Title *(Include & identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
Hiroki Sayama*, SUNY Distinguished Professor and Executive Assistant Dean for Graduate Studies	FT	SSIE 523 Collective Dynamics of Complex Systems	5%	D.Sc. in Information Science, University of Tokyo	
Luis Rocha, George J. Klir Professor of Systems Science	FT	SSIE 501 Introduction to Systems Science	5%	PhD in Systems Science, Binghamton University	
Carlos Gershenson-Garcia, SUNY Empire Innovation Professor	FT	SSIE 547 Modern Complexity Theory	5%	Ph.D. in Interdisciplinary Sciences, Free University of Brussels	

Part B. Faculty Employed by a Partner Institution (as applicable)					
Name of Partner Institution: [redacted]					
Faculty Member Name, Rank, Title *(Include and identify Program Director with *)*	**Full-time (FT) or Part-Time (PT)**	**Program Courses to be Taught**	**Percent Time Dedicated to the Program**	**Highest and Other Applicable Earned Degrees & Disciplines** *(Include the conferring college or university.)*	**Additional Qualifications:** List related certifications/ licenses, occupational experience, scholarly contributions, etc.
TBH*	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	
TBH	FT		100%	PhD in Systems Science or closely related area.	

Appendix 1:

A Comprehensive Quality Control Framework for Watson College's Academic Programs Taught at Additional Location(s)

1. Curriculum Standardization

Unified Curriculum: The additional location will adhere to the same curriculum, learning outcomes, and credit-hour requirements as the home campus.

Approval Process: Faculty will approve all course syllabi and materials to maintain consistency.

2. Faculty Hiring and Development

Faculty Qualifications: Faculty at the additional location will be required to meet the same high standards to qualify to teach our curriculum.

Joint Hiring Committees: The hiring process of faculty/instructors for various programs will include representatives from our faculty from respective programs.

Training Programs: There will be a training and professional development program for additional faculty to align with Binghamton University's teaching standards. This will include on-boarding new faculty visits to main campus and faculty visits from main campus to train, serve as a shadow instructor, and mentor faculty at the additional location.

Exchange Programs: There will be well-structured programs that facilitate faculty exchange for cross-campus exposure and experience sharing.

3. Regular Assessments and Audits

Academic Audits: In order to maintain the academic standards and academic integrity of the programs there will be regular academic audits to ensure compliance with Binghamton University's standards.

Student Assessments: The additional site will use standardized assessments and grading rubrics for consistency across campuses.

Peer Reviews: The oversight will involve periodic peer reviews of teaching quality and course delivery.

4. Technology Integration

Learning Management Systems (LMS): Brightspace will be used for course materials, assignments, and grading.

Virtual Oversight: We will leverage technology for virtual classroom observations, guest lectures, and administrative meetings.

5. Governance and Oversight

Joint Oversight Committees: There will be a joint oversight committee(s) with members from both the BU main campus and additional location for policymaking and quality assurance. Each degree program will have a set of course coordinators from the main campus who will be responsible for ensuring the consistency in quality of instruction at the additional location.

Involvement in all Curriculum-related Discussions: The additional location faculty members will be required to attend all curriculum related meetings at the main campus via video conferencing.

Advisory Boards: There will be a separate Advisory Board for the additional location that will include academic and industry experts to provide strategic direction. This board will have a mix of experts from US and [redacted]

6. Student Feedback and Outcomes

Surveys and Evaluations: the additional location will also regularly collect student feedback on teaching effectiveness and program quality.

Alumni Tracking: As students from the additional location graduate and enter the workforce, the alumni outcomes will be evaluated to study the program's long-term impact.

7. Accreditation and External Reviews

Accreditation Standards: The oversight function will ensure that the additional location complies with the accrediting body requirements similar to the ones embraced by Binghamton University.

External Reviews: There will be periodic external review by the committee of peers to assess the programs.

8. Cross-Campus Interaction

Joint Activities: Binghamton already has very strong collaborative activities with several international campuses. These activities include joint research projects, webinars, faculty visits, workshops, joint publications, etc., which will naturally lend itself to research-informed instruction. Establishment of the additional location will further promote collaborative activities and foster faculty and student exchange programs, to bridge quality and cultural gaps.

Guest Lectures: Binghamton faculty will deliver guest lectures or co-teach certain courses with additional faculty to ensure strong collaboration and uniform instructional standards across both locations.

MS Thesis Committees: Binghamton faculty will be available to serve on thesis committees.

9. Joint Industry Partnerships

Several of Binghamton's industry partners also have a presence in [redacted] These industries will enable development of triangular partnerships, provide internship opportunities, and faculty engagements. Example case studies will be GE, TI, and several Binghamton instructors and alumni have close relationships with fortune 500 companies that also have a presence in [redacted]

10. Continuous Improvement

Feedback Loop: The data from assessments, audits, and feedback will be used to implement continuous improvements at the additional location similar to what is done at Binghamton campus.

Benchmarking: There will be periodic comparison of the performance of the additional location with peer institutions and the Binghamton main campus.