MEMORANDUM

TO: James Mower, Senate Chair

FROM: Havidán Rodríguez, President

DATE: December 18, 2018

SUBJECT: Senate Bill Approval

I am pleased to approve the following Senate Bill, which was recommended following approval by the University Senate at its meeting of December 10, 2018:

Senate Bill 1819-05: PROPOSAL TO ESTABLISH AN UNDERGRADUATE CERTIFICATE IN BUSINESS ANALYTICS

Approved: _____

Havidán Rodríguez, President

UNIVERSITY SENATE

UNVERSITY AT ALBANY
STATE UNIVERSITY OF NEW YORK

Introduced by: The Undergraduate Academic Council
                   University Policy and Planning Council

Date: December 10, 2018

Proposal to Establish an Undergraduate Certificate in Business Analytics

IT IS HEREBY PROPOSED THAT THE FOLLOWING BE ADOPTED:

1. That the University Senate approves the attached program proposal as submitted by the Department of Information Systems and Data Analytics of the School of Business and approved by UAC and UPPC

2. That this takes effect for the Fall 2019 semester.

3. That this proposal be forwarded to President Havidán Rodríguez for approval.

University at Albany – State University of New York
School of Business
Course and program Action Form   **Proposal No.**

Please check one: [ ] Course Proposal   [x] program Proposal

Please mark all that apply:

[ ] New Course   Revision of: Number Description [ ]   [ ]
[ ] Cross-Listing Title Prerequisites
[ ] Shared-Resources Course Credits
[ ] Deactivate/Activate Course (boldface & underline as appropriate)   [X] Other (specify):

Department: _____ ISBA Effective Semester, Year: Fall 2019

Course
Number(s)   Current: _____   _____   New: Credits:
Title: Certificate in Business Analytics
Program Description and Program Description to appear in Bulletin:

See attachment at end of this form.

| Prerequisites statement to be appended to description in Bulletin: |
| See attachment. |

If S/U is to be designated as the only grading system in the course, check here: _____
        This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

| Explanation of proposal: |
| See attachment. |

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

No other departments on campus offer a certificate in business analytics.

| Chair of Proposing Department | Date |
| Peter Duchessi, Information Systems and Business Analytics Dept.   10-4-18 | |

Approved by Chair(s) of Departments having cross-listed course(s) **[Copy of e-mail approval on following page.]**	Date	Dean of College	Date
		Nilanjan Sen	
Chair of Academic programs Committee	Date	Dean of Undergraduate or Graduate Studies	Date

Attachment

1. Program Description in Catalogue

There is growing demand for people with skills in data management and analysis. National and international companies recognize that the application of business analytics has a positive impact on their businesses. However, a shortage of business analytics professionals that have business and/or STEM (science, technology, engineering, and mathematics) backgrounds exists. The Certificate in Business Analytics program aims to provide the skills necessary to satisfy the needs of the marketplace. The program consists of the following five courses: 1) Information Technologies for Business (BITM 215), which focuses on Excel spreadsheet analysis; 2) Quantitative Analysis for Business Decisions (BITM 322), which focuses on statistical methods, including data collection, hypothesis testing, and multiple regression analysis; 3) Improving Business Performance with Information Technologies (BITM 330), which covers data management, database design, and structured query language (SQL); 4) Data Analytics in Business (BITM 415), which emphasizes data management and predictive analytics; and 5) Topics in Business Analytics (BITM 416), which exposes students to analytical techniques that are not covered in BITM 415. The certificate is relevant to business and STEM majors wanting to make themselves more marketable in today's world.

2. Educational and Career Objectives

The program's educational objectives are to provide students with the tools necessary to extract data and analyze it to produce information and knowledge that would improve organizational performance. Graduates with competencies in these areas would be able to assume data analyst positions in a variety of public and private organizations.

3. Knowledge, Skills, and Competencies

The program would provide the following knowledge, skills, and competencies:

- data modeling and extraction competencies for modeling, collecting, describing, and extracting of data
- data preparation competencies for cleaning, reformatting, transforming, and merging data
- data modeling knowledge for understanding various types of visualization tools and statistical and machine learning models that are pertinent to analytics
- data modeling competencies for applying visualization tools and statistical and machine learning models to actual data
- model evaluation competencies for assessing the results of modeling activities

4. Alignment with University's Mission, Goals and Priorities

Concerning the University at Albany's Mission, the program would prepare graduates to meet the high demand for personnel who are able to analyze data to improve organizational performance. In so doing, it is in line with the University's Mission of empowering students to "author their own success." Concerning goals and priorities, the program is in line with the Student Success goal/priority, which aims to promote academic programs that represent "emerging demand of employers," cultivate "intellectual and practical skills," apply to "high-impact practices" areas.

5. Faculty Involvement in program Development

Faculty from the Information Systems and Business Analytics (ISBA) Department and Atmospheric and Environmental Sciences (AES) Department at the University of Albany met several times during the 2017-2018 academic year to discuss the following: increasing need for the program; learning objectives; content, including knowledge, skills, and competencies; anticipated student full time equivalents; and administration of the program. The design of the program reflect these deliberations.

6. Anticipated Enrollments

Year	Anticipated Headcount Enrollment			Estimated FTE
	Full-time	Part-time	Total	
1	25-30	0	25-30	25-30
2	25-30	0	25-30	25-30
3	30-60	0	30-60	30-60
4	30-60	0	30-60	30-60
5	30-60	0	30-60	30-60

There are no capacity limitations for the following courses: 215, 322, and 330. However, there are capacity limitations for both BITM 415 and BITM 416 because they both require computer labs and the maximum size of the computer labs in the School of Business is 30 students. Consequently, in years 1 and 2, the School of Business will cap the program at 30 students; 15 students will be from the ISBA and other departments in the School of Business and the remaining students from the AES Department. As demand ramps up and demand exceed 30 students in years 3-5, then additional sections and possibly faculty would be required. These additional students would come from the School of Business and STEM disciplines other than AES (e.g., geography) in keeping with the description of the program (see item 1 above).

7. Courses and Prerequisites

The following table shows 1) the courses that collectively constitute the certificate program, credit hours for each course, and the associated prerequisites.

Terms, Course Numbers, and Titles	Credits	New	Prerequisite(s)
Term 1: Fall 2019			
BITM 215 Info Tech for Business	3		
Term 2: Spring 2020			
BITM 322 Quant Analysis for Bus Decisions	3		BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)
BITM 330 Improving Bus Perf with Info Tech	3		BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)
Term 3: Fall 2020			
BITM 415 Data Analytics in Bus	3		BITM 322 and BITM 330
Term 4: Spring 2021			
BITM 416 Topics in Bus Analytics	3		BITM 415
Total Credits:	15		

There are **no new** courses for the above certificate program. The program makes use of existing courses and resources; consequently, it is "resource neutral." Course descriptions appear below.

BITM 215 Information Technologies for Business (3)
This course focuses on the role of information systems in solving business problems. The topics in the course will include fundamental of information technology (IT), Organizational Strategy using IT, Customer Relationship Management, Supply Chain Management, Elements of e-business, information security, and cyber-ethics. Students will understand the role and importance of IT/IS within organization and will develop business-oriented applications using Microsoft Excel (comprehensive / advanced level) to achieve a solid base for development of IT/IS applications in business, accounting, or other applications.

BITM 322 Quantitative Analysis for Business Decisions (3)
This course is intended to teach students how to make business decisions under conditions of uncertainty. The course will cover the basics of business statistics, primarily data collection and presentation, and measures of centrality and dispersion. Students will learn about probability and probability distributions, parameter estimation and hypothesis testing. Prerequisite(s): BITM 215, AMAT 106, and AMAT 108 or Equivalent Course(s)

BITM 330 Improving Business Performance with Information Technologies (3)
This course comprehensively covers databased design and development, including, theory, modeling, normalization, management, and administration. In this class students will use database technologies for developing business applications using relational database tools (e.g. Access, and Visual Basic for Applications (VBA). The specific tools used in the course may change over time but the fundamental course of the course will remain the same. The course will also engage students in learning the Structured Query Language (SQL) which the students will use in their application development. This course will help students to understand the importance of databases in an organization and to apply databases to new business problems. The class has a strong hands-on component that will involve extensive use of computers during the class and for homework assignments and projects. Prerequisite(s): BITM 215, AMAT 106, AMAT 108 or Equivalent Course(s)

BITM 415Z Data Analytics in Business (3)
This course will introduce participants to the importance of predictive analytics in today's business world and build competencies in data modeling and predictive analytics, which are a group of practices, technologies, and applications for analyzing data and building models to help businesses make better decisions. Most organizations are data-rich but information-poor. This course discusses how data mining technologies are used to transform "big data" into information to support tactical and strategic business decisions. Students will deepen their knowledge of statistical decision-making tools by developing data mining, data visualization and data analysis skills to extract knowledge hidden in large volumes of data. This is a hands-on course that provides an understanding of the key methods of data visualization, exploration, classification and prediction. The computer will be used extensively throughout the course and emphasis will be placed on the interpretation of results and the implementation of the analysis. The course is also pertinent to students with concentrations in marketing and sales, human resources, and other business areas who are preparing themselves for both the private and public sectors. Prerequisite(s): BITM 330 and BITM 322

BITM 416 Topics in Business Analytics (3)
This course will cover selected topics in Business Analytics, including (but not limited to) Social Network Analysis, Business Intelligence, and Project Management of business analytics projects. The course may introduce students to relevant software packages that permit analysis of data sets that relate to several functional areas of a business, including marketing, sales, and human resources. Students who complete this course will be able to analyze large data sets with modern techniques and tools to improve a company's ability to leverage its corporate data and will be able to assist in the planning and organizing of predicative analytics projects. Prerequisite(s): BITM 415, which is offered only in the spring semester

8. **Need for the Program**

The proposed program targets three segments: 1) business school students from all disciplines, including marketing, human resources, and finance, and 2) students from STEM departments. There is a tremendous demand for people in any of these segments who have business analytics skills and competencies. According to IBM, annual demand analytics professionals will reach nearly 700,000 openings by 2020 and the number of jobs for all analytics professionals increase by 364,000 openings to 2,720,000 by 2020. Jobs requiring machine learning skills are paying on average $114,00 at this time. For the source of these statistics, see L. Columbus, "IBM Predicts Demand For Data Scientists Will Soar 28% By 2020," https://www.forbes.com/sites/louiscolumbus/2017/05/13/ibm-predicts-demand-for-data-scientists-will-soar-28-by2020/#4259784e7e3b, acquired on 9/12/2018.

New Paltz has just launched an undergraduate program in Business Analytics ("SUNY's first ever") and Clarkson offers a program in Business Intelligence & Data Analytics. Consequently, programs in business analytics are just emerging. The ISBA Department offers a concentration in Information Systems and Business Analytics. To date there are no certificate programs in business analytics in NY State or the US to our knowledge. The proposed program would be the first to provide students from both business and STEM majors a certificate in business analytics. The certificate would be a worthy credential, making all students with the certificate valuable to employers.

Currently, no employer has requested establishment of the program. However, numerous companies have active business departments/divisions in the analytics space. Matt Brooks, VP of Data & Analytics Transformation, General Electric Corporation, a University at Albany alumnus, has expressed a strong need for such a program and its graduates. Michael Ferranti, Worldwide CEO, Endai Corporation, another University at Albany alumnus, has also indicated that such a program is important to satisfy the growing need for business analytics professionals.

9. Admissions Requirements

The admissions requirement for the program would be a 3.25 GPA. This GPA is identical to the GPA required for entry into the School of Business. Thus, any active student at the University at Albany, having a GPA of 3.25 or better, would be admitted into the program.

10. Academic and Other Support Services

The School of Business Office of Student Services would be responsible for providing academic advisement and support services for certificate enrollees. These activities would include

- Provide advice on the appropriateness of the program
- Provide advice on the required course, sequencing, and prerequisites
- Monitor students' performance to ensure are meeting the 3.25 GPA requirement
- Monitor students' performance to ensure that all required courses have been successfully completed
- After completion of required courses, notify the registrar accordingly

At all times, the Office would be available to field students' questions and address any concerns should they arise.

To notify STEM students about the program, the School of Business would contact them through their departmental advisement system.

SUNY The State University of New York

New Program Proposal:
Certificate or Advanced Certificate Program

This form should be used to seek SUNY's approval and New York State Education Department's (SED) registration of a proposed new academic program leading to a certificate or an advanced certificate. Approval and registration are both required before a proposed program can be promoted or advertised, or can enroll students. The campus Chief Executive or Chief Academic Officer should send a signed cover letter and this completed form (unless a different form applies[1]), which should include appended items that may be required for Sections 1 through 5 and 10 of this form, to the SUNY Provost at *program.review@suny.edu*. The completed form and appended items should be sent as a single, continuously

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[1] Use a underline different form underline if the proposed new program will lead to a graduate degree or any credit-bearing certificate; be a combination of existing registered programs (i.e. for a multi-award or multi-institution program); be a breakout of a registered track or option in an existing registered program; or **lead to certification as a classroom teacher, school or district leader, or pupil personnel services professional** (e.g., school counselor).

paginated document.[2]   If Sections 7 and 8 of this form apply, External Evaluation Reports and a single Institutional Response should also be sent, but in a separate electronic document. Guidance on academic program planning is available [here](#).

Table of Contents

NOTE: Please update this Table of Contents automatically after the form has been completed. *To do this, put the cursor anywhere over the Table of Contents, right click, and, on the pop-up menus, select "Update Field" and then "Update Page Numbers Only." The last item in the Table of Contents is the List of Appended and/or Accompanying Items, but the actual appended items should continue the pagination.*

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[2] This email address limits attachments to 25 MB. If a file with the proposal and appended materials exceeds that limit, it should be emailed in parts.

Section 1. General Information		
a) Institutional Information	Date of Proposal:	10-4-18
	Institution's 6-digit SED Code:	**210500**
	Institution's Name:	University at Albany
	Address:	*1400 Washington Avenue, Albany, NY 12222*
	Dept of Labor/Regent's Region:	Capital Region
b) Program Locations	List each campus where the entire program will be offered (with each institutional or branch campus 6-digit SED Code): 210500	
	List the name and address of off-campus locations (i.e., extension sites or extension centers) where courses will offered, **or check here [X] if not applicable**:	
c) Proposed Program Information	Program Title:	Business Analytics
	Award(s) (e.g., Certificate.):	Certificate
	Number of Required Credits:	Minimum [15] If tracks or options, largest minimum [ ]
	Proposed HEGIS Code:	0503
	Proposed 6-digit CIP 2010 Code:	52.1399
	If the program will be accredited, list the accrediting agency and expected date of accreditation:	
	If applicable, list the SED professional licensure title(s)[3] to which the program leads:	
d) Campus Contact	Name and title: Celine LaValley, Assistant to the Vice Provost for Undergraduate Education	
	Telephone:518-442-3950 E-mail:clavalley@albany.edu	
e) 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:	
	Signature and date:	
	If the program will be registered jointly[4] with one or more other institutions, provide the following information for each institution:	
	Partner institution's name and 6-digit SED Code:	
	Name, title, and signature of partner institution's CEO (or **append** a signed letter indicating approval of this proposal):	

Section 2. Program Information
2.1. Program Format

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[3] If the proposed program leads to a professional license, a specialized form for the specific profession may need to accompany this proposal.   [4]
If the partner institution is non-degree-granting, see SED's CEO Memo 94-04.

Check all SED-defined [formats, mode and other program features](#) that apply to the **entire program**.

a) **Format(s):** [ ]Day   [ ]Evening   [ ]Weekend   [ ]Evening/Weekend   [ ]Not Full-Time

b) **Modes**:   [ ]Standard   [ ]Independent Study   [ ]External   [ ]Accelerated   [ ]Distance Education
*NOTE: If the program is designed to enable students to complete 50% or more of the course requirements through distance education, check Distance Education, see Section 10, and **append** a [Distance Education Format Proposal](#)*

c) **Other**: [ ] Bilingual [ ] Language Other Than English [ ] Upper Division [ ] Cooperative [ ] 4.5 year [ ] 5 year

2.2. Related Degree Programs

All coursework required for completion of the certificate or advanced certificate program must be applicable to a currently registered degree program at the institution (with the possible exception of post-doctoral certificates in healthrelated fields). Indicate the registered degree program(s) by title, award and five-digit SED Inventory of Registered Programs (IRP) code to which the credits will apply:

Business Administration, B.S. 02954

2.3. Program Description, Purposes and Planning

a) What is the description of the program, as it will appear in the institution's catalog?

There is growing demand for people with skills in data management and analysis. National and international companies recognize that the application of business analytics has a positive impact on their businesses. However, a shortage of business analytics professionals that have business and/or STEM (science, technology, engineering, and mathematics) backgrounds exists. The Certificate in Business Analytics program aims to provide the skills necessary to satisfy the needs of the marketplace. The program consists of the following five courses: 1) Information Technologies for Business (BITM 215), which focuses on Excel spreadsheet analysis; 2) Quantitative Analysis for Business Decisions (BITM 322), which focuses on statistical methods, including data collection, hypothesis testing, and multiple regression analysis; 3) Improving Business Performance with Information Technologies (BITM 330), which covers data management, database design, and structured query language (SQL); 4) Data Analytics in Business (BITM 415), which emphasizes data management and predictive analytics; and 5) Topics in Business Analytics (BITM 416), which exposes students to analytical techniques that are not covered in BITM 415. The certificate is relevant to business and STEM majors wanting to make themselves more marketable in today's world.

b) What are the program's educational and, if appropriate, career objectives, and the program's primary student learning outcomes (SLOs)? ***NOTE: SLOs are defined by the Middle States Commission on Higher Education in the [Characteristics of Excellence in Higher Education](#) (2006) as "clearly articulated written statements, expressed in observable terms, of key learning outcomes: the knowledge, skills and competencies that students are expected to exhibit upon completion of the program."***

Educational and Career Objectives – The Program's educational objectives are to provide students with the tools necessary to extract data and analyze it to produce information and knowledge that would improve organizational performance. Graduates with competencies in these areas would be able to assume data analyst positions in a variety of public and private organizations.

Knowledge, Skills, and Competencies – The Program would provide the following knowledge, skills, and competencies:

- data modeling and extraction competencies for modeling, collecting, describing, and extracting of data

- data preparation competencies for cleaning, reformatting, transforming, and merging data
- data modeling knowledge for understanding various types of visualization tools and statistical and machine learning models that are pertinent to analytics
- data modeling competencies for applying visualization tools and statistical and machine learning models to actual data
- model evaluation competencies for assessing the results of modeling activities

c) How does the program relate to the institution's and SUNY's mission and strategic goals and priorities? What is the program's importance to the institution, and its relationship to existing and/or projected programs and its expected impact on them? As applicable, how does the program reflect diversity and/or international perspectives?

Concerning the University at Albany's Mission, the Program would prepare graduates to meet the high demand for personnel who are able to analyze data to improve organizational performance. In so doing, it is in line with the University's Mission of empowering students to "author their own success."

Concerning goals and priorities, the Program is in line with the Student Success goal/priority, which aims to promote academic programs that represent "emerging demand of employers," cultivate "intellectual and practical skills," apply to "high-impact practices" areas.

d) How were faculty involved in the program's design?

Faculty from the Information Systems and Business Analytics (ISBA) Department and Atmospheric and Environmental Sciences (AES) Department at the University of Albany met several times during the 2017-2018 academic year to discuss the following: increasing need for the program; learning objectives; content, including knowledge, skills, and competencies; anticipated student full time equivalents; and administration of the program. The design of the program reflect these deliberations.

e) How did input, if any, from external partners (e.g., educational institutions and employers) or standards influence the program's design? If the program is designed to meet specialized accreditation or other external standards, such as the educational requirements in Commissioner's Regulations for the Profession, **append** a side-by-side chart to show how the program's components meet those external standards. If SED's Office of the Professions requires a specialized form for the profession to which the proposed program leads, **append** a completed form at the end of this document.

During faculty discussions (see Item 2.3(d) above), faculty related anecdotes about meetings with prospective employers, including need for such a program, competencies required, and recruitment opportunities. These anecdotes motivated the current initiative to create the Program and influenced its design and content. (There was no direct input from prospective employers.) The Program is not designed to meet special accreditation standards.

f) Enter anticipated enrollments for Years 1 through 5 in the table below. How were they determined, and what assumptions were used? What contingencies exist if anticipated enrollments are not achieved?

Year	Anticipated Headcount Enrollment			Estimated FTE
	Full-time	**Part-time**	**Total**	
1	25-30	0	25-30	25-30
2	25-30	0	25-30	25-30
3	30-60	0	30-60	30-60
4	30-60	0	30-60	30-60
5	30-60	0	30-60	30-60

There are no capacity limitations for the following courses: 215, 322, 330 (see Item 2.3g. below). However, there are capacity limitations for both 415 and 416 in the School of Business (again, see Item 2.3g below). Initially, the current Program will be capped at 30 students due to the (1) capacity of computer labs in the School of Business, which are

required for both courses, and (2) capacity of faculty in the ISBA Department. Of the 25-30 students in the program, 15 students will be from the ISBA Department and the remaining 10-15 students from the AES Department. In succeeding years, should demand exceed 30 students/year, as indicated above, then the ISBA Department would have to schedule additional sections of 415 and/or 416 and use adjunct faculty to teach evening courses. The projected number of adjunct faculty would be two faculty at $3,000-4,000/adjunct.

g) Outline all curricular requirements for the proposed program, including prerequisite, core, specialization (track, concentration), capstone, and any other relevant component requirements, but do not list each General Education course.

Course Title	Credits	Course Title	Credits
BITM 215 Info Tech for Business	3	BITM 416 Topics in Bus Analytics	3
BITM 322 Quant Analysis for Bus	3		
BITM 330 Improving Bus Perf with	3		
BITM 415 Data Analytics in Bus	3		
Total required credits: 15			

All courses and associated course descriptions for the Program appear below:

B ITM 215 Information Technologies for Business (3)
This course focuses on the role of information systems in solving business problems. The topics in the course will include fundamental of information technology (IT), Organizational Strategy using IT, Customer Relationship Management, Supply Chain Management, Elements of e-business, information security, and cyber-ethics. Students will understand the role and importance of IT/IS within organization and will develop business-oriented applications using Microsoft Excel (comprehensive / advanced level) to achieve a solid base for development of IT/IS applications in business, accounting, or other applications.

B ITM 322 Quantitative Analysis for Business Decisions (3)
This course is intended to teach students how to make business decisions under conditions of uncertainty. The course will cover the basics of business statistics, primarily data collection and presentation, and measures of centrality and dispersion. Students will learn about probability and probability distributions, parameter estimation and hypothesis testing.

B ITM 330 Improving Business Performance with Information Technologies (3)
This course comprehensively covers databased design and development, including, theory, modeling, normalization, management, and administration. In this class students will use database technologies for developing business applications using relational database tools (e.g. Access, and Visual Basic for Applications (VBA). The specific tools used in the course may change over time but the fundamental course of the course will remain the same. The course will also engage students in learning the Structured Query Language (SQL) which the students will use in their application development. This course will help students to understand the importance of databases in an organization and to apply databases to new business problems. The class has a strong hands-on component that will involve extensive use of computers during the class and for homework assignments and projects.

B ITM 415Z Data Analytics in Business (3)
This course will introduce participants to the importance of predictive analytics in today's business world and build competencies in data modeling and predictive analytics, which are a group of practices, technologies, and applications for analyzing data and building models to help businesses make better decisions. Most organizations are data-rich but information-poor. This course discusses how data mining technologies are used to transform "big data" into information to support tactical and strategic business decisions. Students will deepen their knowledge of statistical decision-making tools by developing data mining, data visualization and data analysis skills to extract knowledge hidden in large volumes of data. This is a hands-on course that provides an understanding of the key methods of data

visualization, exploration, classification and prediction. The computer will be used extensively throughout the course and emphasis will be placed on the interpretation of results and the implementation of the analysis. The course is also pertinent to students with concentrations in marketing and sales, human resources, and other business areas who are preparing themselves for both the private and public sectors.

B ITM 416 Topics in Business Analytics (3)
This course will cover selected topics in Business Analytics, including (but not limited to) Social Network Analysis, Business Intelligence, and Project Management of business analytics projects. The course may introduce students to relevant software packages that permit analysis of data sets that relate to several functional areas of a business, including marketing, sales, and human resources. Students who complete this course will be able to analyze large data sets with modern techniques and tools to improve a company's ability to leverage its corporate data and will be able to assist in the planning and organizing of predicative analytics projects. Prerequisite(s): B ITM 415. Offered spring semester only.

The prerequisites for the above courses appear below (see Prerequisites column). Additionally, the courses need for ISBA concentration, combined concentration (e.g., finance and ISBA), and the Program appear below.

Courses	Prerequisites	Courses Needed for ISBA Concentration	Courses Needed for Combined Concentration	Courses Needed for Certificate Program
BITM 215		X	X	X
BITM 322	BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)	X	X	X
BITM 330	BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)	X	X	X
BITM 331	BITM 330 Offered in Fall, Spring and Summer (may not be offered every Summer)	X	X	
BITM 415	BITM 330 and BITM 322	X	X	X
BITM 416	BITM 415	X		X
BITM 434	BITM 331, corequisite BITM 415	X		

Notes:

- The School of Business requires that all students take BITM 215 and there are no prerequisites for the course.
- MAT 106 is calculus and MAT 108 is basic statistics.
- Fulltime students with a concentration in ISBA will get the Certificate.
- Fulltime students with a combined concentration can take BITM 416 and get the Certificate (one additional course).

h) Program Impact on SUNY and New York State

h)(1) *Need:* What is the need for the proposed program in terms of the clientele it will serve and the educational and/or economic needs of the area and New York State? How was need determined? Why are similar programs, if any, not meeting the need?

As indicated above (Item 2.3a), there is a tremendous demand for people who have business analytics skills and competencies. According to IBM, annual demand analytics professionals will reach nearly 700,000 openings by 2020 and the number of jobs for all analytics professionals increase by 364,000 openings to 2,720,000 by 2020. Jobs requiring machine learning skills are paying on average $114,00 at this time. For the source of these statistics, see L. Columbus, "IBM Predicts Demand For Data Scientists Will Soar 28% By 2020," https://www.forbes.com/sites/louiscolumbus/2017/05/13/ibm-predicts-demand-for-data-scientists-will-soar-28by-2020/#4259784e7e3b, acquired on 9/12/2018.

To date there are no similar programs in NY State or the US to our knowledge. Even if they existed, their graduates would not meet both current and future demand.

h)(2) *Employment:* For programs designed to prepare graduates for immediate employment, use the table below to list potential employers of graduates that have requested establishment of the program and describe their specific employment needs. If letters from employers support the program, they may be **appended** at the end of this form. As appropriate, address how the program will respond to evolving federal policy on the "gainful employment" of graduates of certificate programs whose students are eligible for federal student assistance.

Employer	Need: Projected positions	
	In initial year	In fifth year
General Electric Corporation		
IBM Corporation		
Endai Corporation		

Currently, no employer has requested establishment of the Program. However, numerous companies have active business departments/divisions in the analytics space. Just three of these companies appear above. Matt Brooks, VP of Data & Analytics Transformation, General Electric Corporation, a University at Albany alumnus, has expressed a strong need for such a program and its graduates. Michael Ferranti, Worldwide CEO, Endai Corporation, another University at Albany alumnus, has also indicated that such a program is important to fill the growing need for business analytics professionals.

h)(3) *Similar Programs:* Use the table below to list similar programs at other institutions, public and independent, in the service area, region and state, as appropriate. Expand the table as needed. *NOTE: Detailed program-level information for SUNY institutions is available in the Academic Program Enterprise System (APES) or Academic Program Dashboards. Institutional research and information security officers at your campus should be able to help provide access to these password-protected sites. For non-SUNY programs, program titles and degree information – but no enrollment data – is available from SED's Inventory of Registered Programs.*

Institution	Program Title	Degree	Enrollment

To our knowledge, there are no certificate programs for undergraduates as the one described here in the SUNY system or in the US.

h)(4) *Collaboration:* Did this program's design benefit from consultation with other SUNY campuses? If so, what was that consultation and its result?

There was no collaboration.

h)(5) *Concerns or Objections:* If concerns and/or objections were raised by other SUNY campuses, how were they resolved?

2.4. Admissions

a) What are all admission requirements for students in this program? Please note those that differ from the institution's minimum admissions requirements and explain why they differ.

The admissions requirement for the proposed Program would be a 3.25 GPA. This is identical to the GPA required for entry into the School of Business. Thus, any active student at the University at Albany, having a GPA of 3.25 or better, would be admitted into the Program.

For prospective students with undergraduate degrees from other, reputable institutions, the admissions requirement would remain the same.

b) What is the process for evaluating exceptions to those requirements?

Currently there are no exceptions to the admissions requirement.

c) How will the institution encourage enrollment in this program by persons from groups historically underrepresented in the institution, discipline or occupation?

There is no need to encourage enrollment in the Program because the University takes steps in ensure broad representation from underrepresented groups

2.5. Academic and Other Support Services

Summarize the academic advising and support services available to help students succeed in the program.

The School of Business Office of Student Services would be responsible for providing academic advisement and support services for certificate enrollees. These activities would include

- Provide advice on the appropriateness of the Program
- Provide advice on the required course, sequencing, and prerequisites
- Monitor students' performance to ensure are meeting the 3.25 GPA requirement
- Monitor students' performance to ensure that all required courses have been successfully completed
- After completion of required courses, notify the registrar accordingly

At all times, the Office would be available to field students' questions and address any concerns should they arise.

2.6. Prior Learning Assessment

If this program will grant credit based on Prior Learning Assessment, describe the methods of evaluating the learning and the maximum number of credits allowed, **or check here [   ] if not applicable**.

The Program will not grant credit for prior course work so no prior learning assessment will take place.

2.7. Program Assessment and Improvement

Describe how this program's achievement of its objectives will be assessed, in accordance with *SUNY policy*, including the date of the program's initial assessment and the length (in years) of the assessment cycle. Explain plans for assessing achievement of students' learning outcomes during the program and success after completion of the program. **Append** at the end of this form, **a plan or curriculum map** showing the courses in which the program's educational and, if appropriate, career objectives – from Item 2.3(b) of this form – will be taught and assessed. *NOTE: The University Faculty Senate's Guide for the Evaluation of Undergraduate Programs is a helpful reference.*

The courses that constitute the Program are regularly scheduled courses in the School of Business; the assessment procedures described in their syllabi portray the assessment of the educational objectives and related competencies, as described in Item 2.3b above.

According to Item 2.3b above, the Program's objectives are to provide the tools necessary to extract data (i.e., extraction) and analyze (i.e., analysis) it to produce information and knowledge. Appendix 1, Curriculum Map, shows the courses, objectives, and associated competencies for all the courses in the Program, as outlined in Item 2.3b above. As indicated in Appendix 1, assessment takes place in each course according to the requirements and associated assessment procedure of the courses listed. Appendix 2 contains the syllabi for all courses in the Program.

Section 3. Program Schedule and Curriculum

Complete the **SUNY Program Schedule for Certificate and Advanced Certificate Programs** to show how a typical student may progress through the program.

*NOTE: For an undergraduate certificate program, the **SUNY Program Schedule for Certificate and Advanced Certificate Programs** must show **all curricular requirements and the number of terms required to complete them.** Certificate programs **are not required** to conform to SUNY's and SED's policies on credit limits, general education, transfer and liberal arts and sciences.*

The table below shows how a typical student may progress through the program. A currently enrolled student requires two years to complete the program. During his/her sophomore or junior year, the student would take BITM 215 and BITM 330 in the Fall semester and BITM 322 in the Spring semester. During the following year, the student would take BITM 415 and BITM 416.

Terms, Course Numbers, and Titles	Crs	New	Prerequisite(s)
Term 1: Fall 2019			
BITM 215 Info Tech for Business	3		

BITM 330 Improving Bus Perf with Info Tech	3		BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)
Term 2: Spring 2020			
BITM 322 Quant Analysis for Bus Decisions	3		BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)
Term 3: Fall 2020			
BITM 415 Data Analytics in Bus	3		BITM 330 and BITM 322
Term 4: Spring 2021			
BITM 416 Topics in Bus Analytics	3		BITM 415
Term credit total:	15		

There are no new courses for the above Certificate Program.

NOTE*: For a graduate advanced certificate program, the **SUNY Sample Program Schedule for Certificate and Advanced Certificate Programs** must include all curriculum requirements. The program is **not required** to conform with the graduate program expectations from in Regulation 52.2 http://www.highered.nysed.gov/ocue/lrp/rules.htm.*

a) If the program has fewer than 24 credit hours, or if the program will be offered through a nontraditional schedule (i.e., not on a semester calendar), what is the schedule and how does it impact financial aid eligibility?

NOTE: Consult with your campus financial aid administrator for information about nontraditional schedules and financial aid eligibility.

b) For each existing course that is part of the proposed undergraduate certificate or the graduate advanced certificate, **append**, at the end of this form, a catalog description.

See Appendix 2.

c) For each new course in the certificate or advanced certificate program, **append a syllabus** at the end of this document.

See appendix 3.

d) IA the program requires external instruction, such as clinical or field experience, agency placement, an internship, fieldwork, or cooperative education, **append** a completed External Instruction form at the end of this document.

SUNY Program Schedule for Certificate and Advanced Certificate Programs

Program/Track Title and Award:_____

- Indicate **academic calendar type**: [X] Semester   [ ] Quarter   [ ] Trimester   [ ] Other (describe):
- **Label each term in sequence**, consistent with the institution's academic calendar (e.g., Fall 1, Spring 1, Fall 2)
- Use the table to show **how a typical student may progress through the program**; copy/expand the table as needed. **Complete all columns that apply to a course.**

Term 1: Fall 2019				Term 1: Spring 2020			
Course Number & Title	Credits	New (X)	Co/Prerequisites	Course Number & Title	Credits	New (x)	Co/Prerequisites
BITM 215 Info Tech for Business	3			BITM 322 Quant Analysis for Bus Decisions			BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)
BITM 330 Improving Bus Perf with Info Tech	3		BITM 215, AMAT 106, and AMAT 108, or Equivalent Course(s)				
Term credit totals:	6			Term credit totals:	3		
Term 3: Fall 2020				**Term 4: Spring 2021**			
Course Number & Title	Credits	New (X)	Co/Prerequisites	Course Number & Title	Credits	New (X)	Co/Prerequisites
BITM 415 Data Analytics in Bus	3		BITM 330 and BITM 322	BITM 416 Topics in Bus Analytics	3		BITM 415

Term credit totals:	3			Term credit totals:	3	

Program Totals (in credits):	Total Credits: 15

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Section 4. Faculty

a) Complete the **SUNY Faculty Table** on the next page to describe current faculty and to-be-hired (TBH) faculty.

b) **Append** at the end of this document position descriptions or announcements for each to-be-hired faculty member.

NOTE: CVs for all faculty should be available upon request. Faculty CVs should include rank and employment status, educational and employment background, professional affiliations and activities, important awards and recognition, publications (noting refereed journal articles), and brief descriptions of research and other externally funded projects.   New York State's requirements for faculty qualifications are in http://www.highered.nysed.gov/ocue/lrp/rules.htm*.*

c) What is the institution's definition of "full-time" faculty?

SUNY Faculty Table

Provide information on current and prospective faculty members (identifying those at off-campus locations) who will be expected to teach any course in the graduate program. Expand the table as needed. Use a separate Faculty Table for each institution if the program is a multi-institution program.

(a) Faculty Member Name and Title/Rank (Include and identify Program Director with an asterisk)	(b) % of Time Dedicated to This Program	(c) Program Courses Which May Be Taught (Number and Title)	(d) Highest and Other Applicable Earned Degrees (include College or University)	(e) Discipline(s) of Highest and Other Applicable Earned Degrees	(f) Additional Qualifications: List related certifications, licenses and professional experience in field
PART 1. Full-Time Faculty					
I. Chengalur-Smith, Professor	1 Course	BITM 415	PhD (Virginia Tech)	Information Systems and Statistics	
J. Crnkovic, Service/Clinical Associate Professor	1 Course	BITM 330	PhD (University of Belgrade)	Information Systems	
P. Jinna, Assistant Professor	1 Course	BITM 416	PhD (Emory University)	Information Systems and Analytics	
E. Sprissler, Lecturer	1 Course	BITM 215	ABD at UAlbany	Information Systems	
S. Nevo, Associate Professor	1 Course	BITM 322	PhD (York University)	Information Systems	
Part 2. Part-Time Faculty					

Part 3. Faculty To-Be-Hired (List as TBH1, TBH2, etc., and provide title/rank and expected hiring date)					

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a) What is the resource plan for ensuring the success of the proposed program over time? Summarize the instructional facilities and equipment committed to ensure the success of the program. Please explain new and/or reallocated resources over the first five years for operations, including faculty and other personnel, the library, equipment, laboratories, and supplies. Also include resources for capital projects and other expenses.

This Certificate Program is essentially resource neutral. It makes use of existing courses and faculty in the School of Business. The incremental costs of the Program appear in 5b below.

b) Complete the five-year SUNY Program Expenses Table, below, consistent with the resource plan summary. Enter the anticipated academic years in the top row of this table. List all resources that will be engaged specifically as a result of the proposed program (e.g., a new faculty position or additional library resources). If they represent a continuing cost, new resources for a given year should be included in the subsequent year(s), with adjustments for inflation or negotiated compensation. Include explanatory notes as needed.

There are no new expenses associated with the program other than the (1) the cost of adjunct faculty in the second year of the program should demand go beyond 30 students and (2) the cost of producing and mailing the certificates, which would be incurred by the registrar's office. Concerning the first item, two adjunct faculty would be required in years 3-5 as enrollments grow from 25-30 to 30-60 students; these faculty would teach evening courses and would be paid through the School of Business adjunct budget. The program makes use of existing courses, faculty, and support services in the School of Business; consequently, no fulltime lines would be required. Concerning the second item, the projected cost is $288-528.

SUNY Program Expenses Table
(OPTION: You can paste an Excel version of this schedule AFTER this sentence, and delete the table below.)

Program Expense Categories	Expenses (in dollars)					
	Before Start	**Academic Year 1: 25-30 Students**	**Academic Year 2: 25-30 Students**	**Academic Year 3: 30-60 Students**	**Academic Year 4: 30-60 Students**	**Academic Year 5: 30-60 Students**
(a) Personnel						
(b) Library						
(c) Equipment						
(d) Laboratories						
(e) Supplies						
(f) Capital Expenses						
(g) Registrar's Office (Creation and Mailing of Certificates)		288-528	288-528	576-1,056	576-1,056	576-1,056

(h) Two Adjunct Faculty in Years 3&4 to Accommodate 30-60 Students				6,000-8,000	6,000-8,000	6,000-8,000
(i) Sum of Rows Above		$288-528	$288-528	$6,576-9,056	$6,576-9,056	$6,576-9,056

Section 6. Library Resources

NOTE: This section does not apply to certificate or advanced certificate programs.

Section 7. External Evaluation

NOTE: This section does not apply to certificate or advanced certificate programs.

Section 8. Institutional Response to External Evaluator Reports

NOTE: This section does not apply to certificate or advanced certificate programs.

Section 9. SUNY Undergraduate Transfer

NOTE: This section does not apply to certificate or advanced certificate programs.

Section 10. Application for Distance Education

a) Does the program's design enable students to complete 50% or more of the course requirements through distance education? [ ] No   [ ] Yes. If yes, **append** a completed *SUNY Distance Education Format Proposal* at the end of this proposal to apply for the program to be registered for the distance education format.

b) Does the program's design enable students to complete 100% of the course requirements through distance education? [ ] No   [ ] Yes

Section MPA-1. Need for Master Plan Amendment and/or Degree Authorization

NOTE: This section does not apply to certificate or advanced certificate programs.

List of Appended Items

Appended Items: Materials required in selected items in Sections 1 through 5 and Section 10 of this form should be appended after this page, with continued pagination. In the first column of the chart below, please number the appended items, and append them in number order.

Number	Appended Items	Reference Items
	For multi-institution programs, a letter of approval from partner institution(s)	Section 1, Item (e)
	For programs leading to professional licensure, a side-by-side chart showing how the program's components meet the requirements of specialized accreditation, Commissioner's Regulations for the Profession, or other external standards	Section 2.3, Item (e)
	For programs leading to licensure in selected professions for which the SED Office of the Professions (OP) requires a specialized form, if required by OP	Section 2.3, Item (e)
	OPTIONAL: For programs leading directly to employment, letters of support from employers, if available	Section 2, Item 2.3 (h)(2)
	For all programs, a plan or curriculum map showing the courses in which the program's educational and (if appropriate) career objectives will be taught and assessed	Section 2, Item 7
	For all programs, a catalog description for each existing course that is part of the proposed program	Section 3, Item (b)
	For all programs, syllabi for all new courses in the proposed program	Section 3, Item (c)
	For programs requiring external instruction, *External Instruction Form* and documentation required on that form	Section 3, Item (d)
	For programs that will depend on new faculty, position descriptions or announcements for faculty to-be-hired	Section 4, Item (b)
	For programs designed to enable students to complete at least 50% of the course requirements at a distance, a *Distance Education Format Proposal*	Section 10

Appendix 1: Curriculum Map

Course Subjects	Course Numbers	Sequence of Courses	Course Titles	Objectives (i.e., Extraction and Analysis)	Competencies	Assessment of Learning Devices
BITM	215		Information Technology for Business	Extraction and Analysis		
					Data Extraction and Analysis through MS Excel	As described in Syllabus
BITM	330		Improving Business Performance with Information Tehcnology	Extraction	Data Modeling and Extraction, especially through Relational Databases and Structured Query Language	As described in Syllabus
BITM			Quantitavite Analysis for Business Decisions	Analysis		
					Data Preparation, including Cleaning, Reformating, and Transforming of Data, and Statistical Analysis Techniques	As described in Syllabus
BITM	322 415		Data Analytics in Buiness	Analysis	Visualization, Statistical, and Other Analysis Techniques, as well as Model Evaluation	As described in Syllabus
BITM	416		Topics in Business Analytics	Analysis	Other Statistical and Analysis Techniques not covered in 415	As described in Syllabus

Appendix 2: Course Syllabi

(Not available at present.)

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When submitting a program proposal please submit this form to indicate the
resource implications of the proposal.

Proposal Title: **Certificate in Business Analytics**   _____

College or School   **University at Albany**   Department **Info Systems and Bus Analytics (ISBA)**

Program Director or Sponsor   **P. Duchessi (Chair)**   Email **pduchessi@albany.edu**

Action Category   X Program Proposal   Does this proposal include any space ☐ Yes
                      ☐ Other (describe)   resource implications? Approx. sq. ft.   X   No
                                               needed: _____

      X New Does the Office of Finanical Aid identify ☐ Yes ☐ Revision this as a **Gainful Employment**
                                        ☐ No ☐ Deactivation **Program (GEP)**?

                                        ☐ Other (describe)

Brief Description of Proposal: *(attach additional pages if necessary)* See attachment.

There is growing demand for people with skills in data management and analysis. National and international companies recognize that the application of business analytics has a positive impact on their businesses. However, a shortage of business analytics professionals that have business and/or STEM (science, technology, engineering, and mathematics) backgrounds exists. The Certificate in Business Analytics program aims to provide the skills necessary to satisfy the needs of the marketplace. The program consists of the following five courses: 1) Information Technologies for Business (BITM 215), which focuses on Excel spreadsheet analysis; 2) Quantitative Analysis for Business Decisions (BITM 322), which focuses on statistical methods, including data collection, hypothesis testing, and multiple regression analysis; 3) Improving Business Performance with Information Technologies (BITM 330), which covers data management, database design, and structured query language (SQL); 4) Data Analytics in Business (BITM 415), which emphasizes data management and predictive analytics; and 5) Topics in Business Analytics (BITM 416), which exposes students to analytical techniques that are not covered in BITM 415. The certificate is relevant to business and STEM majors wanting to make themselves more marketable in today's world.

The Undergraduate Affairs Committee, School of Business, approved the program in September 2018.

Is there an impact on other service units? Please attach documentation that you have consulted with each unit listed below:

Yes	No	
☐	Χ	**ITS**
☐	Χ	**University Libraries**
☐	Χ	**Scientific Core Facilities**
Χ	☐	**Other services (**i.e., advisement, parking, facilities, security), please list: Registrar's Office ($288-528 for producing and mailing of certificates)

Is there an impact on other academic programs? Please list all academic departments consulted regarding impact and attach documentation.

Faculty from the Information Systems and Business Analytics (ISBA) Department and Atmospheric and Environmental Sciences (AES) Department at the University of Albany met several times during the 2017-2018 academic year to discuss the following: increasing need for the program; learning objectives; content, including knowledge, skills, and competencies; anticipated student full time equivalents; and administration of the program. The design of the program reflect these deliberations.

Based on these deliberations, there is no impact on the ISBA Department because existing courses will be used for the certificate program. There is no impact on the AES Department because all of the courses will be offered by the AES Department. At some point, should demand exceed the initial projected enrollment of 25-30 total students (15 ISBA students in business concentrations and 10-15 AES students), the ISBA Department would have to add additional sections of BITM 415 (one additional section) and BITM 416 (one additional section) to its schedule. The ISBA Department may have to use adjuncts to teach one or two of its evening courses. Cost estimates below will include two adjunct faculty to be conservative. These adjuncts would be needed in years 3-5 when demand is projected to be 30-60 students.

Faculty and Staff *(attach additional pages **if** necessary)*

(a) Describe new faculty hiring needed during the next 3 years
(b) Explain how program will be administered for the purposes of admissions, advising, course offerings, etc. Discuss the available support staff.

(a) **Faculty Hiring**

The program does not require new faculty. It makes use of existing courses, faculty, and staff in the School of Business. However, as mentioned above, the ISBA Department may have to use adjuncts to teach one or two of its evening courses at a cost of $3,000-4,000/adjunct.

(b) **Administration of Program**

The program using the existing admissions process for the School of Business. Consequently, it relies on the School of Business Office of Student Services. (Note, the admissions requirement for the proposed program would be a 3.25 GPA. This is identical to the GPA required for entry into the School of Business. Thus, any active student at the University at Albany, having a GPA of 3.25 or better, would be admitted into the program.)

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The School of Business Office of Student Services would be responsible for providing academic advisement and support services for program enrollees. These activities would include

- Provide advice on the appropriateness of the program
- Provide advice on the required courses, sequencing, and prerequisites
- Monitor students' performance to ensure they are meeting the 3.25 GPA requirement
- Monitor students' performance to ensure that all required courses have been successfully completed
- After completion of required courses, notify the registrar accordingly

At all times, the Office would be available to field students' questions and address any concerns should they arise.

Program Expenses

List all resources that will be engaged specifically as a result of the proposed program (e.g., a new faculty position or additional library resources). If they represent a continuing cost, new resources for a given year should be included in the subsequent year(s), with adjustments for inflation or negotiated compensation.

Expenses

There are no new expenses associated with the program other than the (1) the cost of adjunct faculty in the second year of the program should demand go beyond 30 students and (2) the cost of producing and mailing the certificates, which would be incurred by the registrar's office. Concerning the first item, two adjunct faculty would be required in years 3-5 as enrollments grow from 25-30 to 30-60 students; these faculty would teach evening courses and would be paid through the School of Business adjunct budget. The program makes use of existing courses, faculty, and support services in the School of Business; consequently, no fulltime lines would be required. Concerning the second, item the projected cost is $288-528.

Program Expense Categories	Expenses (in dollars)					
	Prior to implementation	Academic Year 1: 25-30 Students	Acdemic Year 2: 25-30 Students	Academic Year 3: 3060Students	Academic Year 3: 3060Students	Academic Year 3: 3060Students
(a) Personnel (including faculty and all others)						
(b) Library						
(c) Equipment						
(d) Laboratories						
(e) Supplies						
(f) Capital Expenses						
(g) Student stipends or scholarships						

(h) Other (specify): *Registrar's Office (Creation and Mailing of Certificate)*		288-528	288-528	576-1,056	576-1,056	576-1,056
Adjunct Faculty (two courses)				6,000-8,000	6,000-8,000	6,000-8,000
Sum of Rows Above		$288-528	$288-528	$6,576-9,056	$6,576-9,056	$6,576-9,056

Explanatory Notes (add additional pages as needed):

APPROVALS

Department Chair   Peter Duchessi   Information Systems and Data Analytics   11-6-18
                          Department Chair   Date

                          Nilanjan Sen
Dean   _____   _____   Dean   Date

UPPC Chair   _____ ___   _____

                          UPPC Chair   Date

- It is the sponsoring department's responsibility to request and attach all required documentation and to obtain all required signatures (with the exception of the chair of UPPC's) **before** presenting the documentation.

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- Completed forms should be sent to the **Office of Undergraduate Education**, the **Office of Graduate Education**, or **both** as appropriate.

- When the Chair of UPPC has received the proposal from the appropriate office(s), s/he will notify you that it has been placed on the UPPC agenda and invite you to attend the meeting.

From: Chico Hurst, Karen
Sent: Friday, November 2, 2018 8:33 PM
To: Winchester, Kathie C <kwinchester@albany.edu>
Cc: LaValley, Celine A <clavalley@albany.edu>; Chico Hurst, Karen <kchicohurst@albany.edu>; Powers, Melissa <mpowers2@albany.edu>
Subject: RE: Cost of Certificates

The Registrar's Office will spend between $50,000 and $60,000 for diploma production costs in 2018-19. Each certificate costs $2.76 to produce and $6.85 (domestic) to $14.85 (international) for postage. Thirty certificates a year would cost between $288.30 and $528.30 depending on where they ship to (domestic v. international). We are able to absorb the cost for this initial group. We are looking at a proposal to increase our degree verification fee to cover rising costs. The contract for diploma production is renewed yearly and the cost of shipping goes up every year. As enrollment increases (especially international) and more certificates are introduced, this cost will continue to increase and the campus will need to consider additional sources of funding. UA currently does not charge our students for the cost of their first diploma.