

# : BUSINESS ANALYTICS, MS

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## In Workflow

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## Approval Path

1. Tue, 25 Feb 2020 16:58:10 GMT  
Kathy Martensen (kmartens): Approved for U Program Review
2. Tue, 25 Feb 2020 17:26:08 GMT  
Jeffrey Loewenstein (jloew): Approved for 1902 Committee Chair
3. Tue, 25 Feb 2020 17:32:00 GMT  
Cele Otnes (cotnes): Approved for 1902 Head
4. Tue, 25 Feb 2020 17:47:57 GMT  
Jeffrey Loewenstein (jloew): Approved for KM Grad Committee Chair
5. Tue, 25 Feb 2020 17:53:43 GMT  
Michael Dyer (dyer1): Approved for KM Committee Chair
6. Tue, 25 Feb 2020 20:19:18 GMT  
Mark Peecher (peecher): Approved for KM Dean
7. Tue, 25 Feb 2020 20:30:57 GMT  
John Wilkin (jpwilkin): Approved for University Librarian
8. Thu, 05 Mar 2020 21:41:58 GMT  
Allison McKinney (agrindly): Approved for Grad\_College
9. Fri, 06 Mar 2020 01:39:04 GMT  
Kathy Martensen (kmartens): Rollback to KM Dean for Provost
10. Mon, 09 Mar 2020 20:48:00 GMT  
Mark Peecher (peecher): Approved for KM Dean
11. Mon, 09 Mar 2020 20:57:33 GMT  
John Wilkin (jpwilkin): Approved for University Librarian
12. Tue, 10 Mar 2020 15:32:17 GMT  
Allison McKinney (agrindly): Approved for Grad\_College
13. Wed, 11 Mar 2020 17:34:37 GMT  
Kathy Martensen (kmartens): Approved for Provost

## New Proposal

Date Submitted: Tue, 25 Feb 2020 16:50:56 GMT

## Viewing:: Business Analytics, MS

Changes proposed by: Lorena Nicholas

## Proposal Type

**Proposal Type:**

Major (ex. Special Education)

**Proposal Title:**

**if this proposal is one piece of a multi-element change please include the other impacted programs here. *example: A BS revision with multiple concentration revisions***

The department of Business Administration is proposing a new major in Business Analytics.

This proposal is part of a multi-element change with the following proposals:

The department of Business Administration is proposing revisions to the existing Business Data Analytics Graduate Concentration (Key 785)

The department of Business Administration is proposing a new Technology Management Graduate Concentration (Key 963)

The department of Business Administration is proposing a revision to the MS Management major (Key 156)

**EP Control Number**

EP.20.153

**Official Program Name**

Business Analytics, MS

**Effective Catalog Term**

Fall 2020

**Sponsor College**

Gies College of Business

**Sponsor Department**

Business Administration

**Sponsor Name**

Jeffrey Loewenstein, Associate Dean of Graduate Education; Robert Brunner, Associate Dean for Innovation

**Sponsor Email**

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**College Contact**

Lorena Nicholas

## College Contact Email

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## Program Description and Justification

**Provide *abrief* description and justification of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.**

The Department of Business Administration at the Gies College of Business seeks to establish a Master of Science in Business Analytics. A new M.S. degree will help the department and college prepare students to meet substantial and growing demand from both prospective students and employers for those who can innovate through the appropriate acquisition, management, analysis, and communication of business data. A new M.S. degree will help the College stay competitive with peer institutions, as well as leverage and advance the Department's, College's, and University's capabilities, reputation, and strategic direction. The planned degree program will build on and extend the Department's and College's capabilities. The planned degree program needs to have courses offered on campus and online, drawing on the Department's and College's experience, resources, and reputation in both residential and online coursework. Nearly all the resources for the degree program are already in place, as we offer courses and concentrations in Business Analytics in our undergraduate and graduate programs, but not (yet) a fully-dedicated degree program. The program will attract individuals from a variety of disciplines. It will require 36 hours of coursework, including three required courses (providing foundations of managing, analyzing, and communicating business data), at least four analytics elective courses to deepen students' skills, and the option for taking up to two general elective courses to deepen their application area knowledge. The program will be self-supporting. As it will draw on existing faculty capacity and infrastructure, its only resource expansions will be supported by tuition revenue.

A graduate program in Business Analytics will help advance the mission and vision of our Department, College, and University. We strive to develop people's potential to innovate and lead companies. Companies increasingly make decisions, products, and services by relying on large amounts of business data. Consequently, people with the ability to innovate and lead in a data-driven way are in high demand by companies. This emerging skillset results from the integration of business application area expertise (such as finance, marketing, or operations) with data science skills (gathering, managing, analyzing, and communicating data). The Gies College of Business has been and continues to develop coursework at the undergraduate and graduate levels to educate students in Business Analytics. These introductions and concentrations are appropriate for many business students, but not all. Our College, like other universities and companies, has concluded that some students would benefit from additional depth that an entire program focused on Business Analytics can provide. Consequently, we propose to launch a stand-alone specialized master's program in Business Analytics, distinct from and complementing our college's programs focused on finance, accountancy, and management.

The proposed degree aims to develop professionals with the ability to identify and understand business problems and opportunities, and to leverage data analytic approaches to address them. We possess outstanding faculty, courses, and the infrastructure to train professionals in Business Analytics. We continue to develop these resources for our existing programs. These resources give us the ability to launch a dedicated graduate program in Business Analytics. In turn, such a program will complement and enhance existing programs through providing additional resources dedicated to business analytics. We run related world-class programs, and we fully expect this program to add to the college and university reputation as yet another success.

Department and College faculty and staff spent nearly two years crafting this initiative. Three committees considered the possibility of launching a graduate program in Business Analytics. They gathered input from across campus, as well as from current students, alumni, and recruiters. We reviewed existing Business Analytics programs at other universities. We held college-wide town hall meetings to present our findings and allow for additional input. The result is a broadly supported proposal to launch this program.

### External Context

Graduate business master's degree programs in data analytics are experiencing the sharpest growth in interest from prospective students, and graduates of such programs are seeing the sharpest rise in interest from company recruiters. The Graduate Management Admission Council (GMAC) gathers and provides considerable data on these issues. As consistent patterns emerged from other data sources (an Eduvantis report our college commissioned, Google Trends data, Government data on CIP code use, and so forth) for the sake of simplicity all the specifics in this and the next paragraph are gleaned from GMAC reports. As of 2019, two-thirds of prospective students for graduate business education are now seeking a specialized master's degree program, and Business Analytics is now the second-most sought after program. Demand is now substantial. About 17,000 students last year stated an interest in Business Analytics. This figure already locates analytics interest between that of accountancy programs (about 12,000) and finance programs (about 30,000). In addition, the year-over-year change in interest for analytics was double the rate of those more established programs.

Companies of all sizes and industries now seek out graduates of Business Analytics programs. Already, Business Analytics graduates are among the most sought after of all specialized (i.e., non-MBA) business master's programs (with about 36% of surveyed companies looking). Projected growth in hiring is higher for this degree program than any other in graduate business education. Salaries for graduates are already showing higher averages (~\$95,000) than for any other specialized business master's program, and planned increases are also more likely (47% of companies plan to increase salaries at greater than the rate of inflation, with the second highest rate being 21%).

Other colleges of business are taking action to meet the demand. Business schools have added more than twice as many analytics master's programs than any other kind of program in the past five years. Many of our peer institutions have already launched programs. Still, most are quite new, and demand from students and employers continues to rise. Further, while many business schools are developing or now offering such programs, student and company needs are likely to support many programs, and there is a limit on the number of colleges that can offer the kind of high-quality program that we can offer. Thus, we are not too late in establishing a program. Further, a business analytics program is consistent with our College and University reputation. For example, a survey of prospective students by Eduvantis indicated that a program from our college would readily be considered by prospective students, and that they expect we could provide a strong program.

A review of about two dozen programs at peer institutions showed strong consistency in coursework. These programs focus on business data management, analysis, and communication, coupled to business application areas. Program lengths vary from nine months to two years, as do delivery formats. For example:

Carnegie Mellon University's Tepper School of Business offers a two-year hybrid program, combining residential and online coursework. The coursework focuses on business data management, analysis, and communication, with some additional business application area depth.

Arizona State's Carey School of Business offers a 9-month program that can be completed in either an online or residential format. The coursework focuses on business data management, analysis, and communication, with some additional options in the residential format.

University of Minnesota's Carlson School of Management offers a 12-month residential program that can also be completed part time over two years. The coursework focuses on business data management, analysis, and communication, with some business foundations and additional options in the full-time format.

#### Program Overview

The design of the proposed program builds on insights from existing business analytics programs offered by other business schools as well as insights from programs offered at our own college and the School of Information's Master's of Information Management (MS/IM) program. Specifically, we propose a set of core courses to provide foundations in business data management, analysis, and communication. We provide flexibility in the form of an array of business analytics electives that allow students to customize their emphasis. We provide distinctiveness in that few analytics programs allow students to dive deeply into any business application area, let alone a choice of areas.

The three core classes are designed to be taken concurrently and to provide a foundation for the later electives.

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BADM 554, Enterprise Database Management, is designed to help students grapple with the question of what data they need to answer a question. It introduces students to issues in pulling and cleaning data such that it is possible to generate meaningful queries and form helpful data models. This course may be cross-listed in future semesters under the new BDI rubric.

FIN 510: Big Data Analytics is designed to enable students to do analyses to answer questions about causal inferences and about making predictions. It enables students to use scalable tools and methods for engaging in a variety of analyses. This course may be cross-listed in future semesters under the new BDI rubric.

BDI 513 Data Storytelling is a new course under the new BDI rubric (key 12086 in CIM) is designed to enable students to convey compelling answers to questions. It enables students to use tools to generate compelling visualizations and narratives, with an understanding of the choices they are making regarding data presentation. This course is new, with an undergraduate version planned for Fall 2020. Together, these three core courses provide a foundation for asking and answering questions with business data so as to foster effective decision making and innovation. Further elective offerings will deepen students' skills in doing so in particular business application areas.

Upon completing the program, graduates should be able to innovate to solve business problems by leveraging business analytics methods and tools.

#### Corresponding Degree

MS Master of Science

#### Is this program interdisciplinary?

No

#### Academic Level

Graduate

**Will you admit to the concentration directly?**

No

**Is a concentration required for graduation?**

No

**CIP Code**

30.7102 - 30.7102

**Is This a Teacher Certification Program?**

No

**Will specialized accreditation be sought for this program?**

No

## **Institutional Context**

University of Illinois at Urbana-Champaign

Describe the historical and university context of the program's development. Include a short summary of any existing program(s) upon which this program will be built.

**Explain the nature and degree of overlap with existing programs and, if such overlap exists, document consultation with the impacted program's home department(s).**

Department and College Context

The Department of Business Administration has and continues to make substantial investments in business analytics. Most notably, we recently integrated and expanded an area of our faculty dedicated to Information systems, Operations, Supply chain, and Analytics (IOSA). Leading this area is Sridhar Seshadri, the Baltz Professor of Business, a long-time leader in business analytics research, a textbook author in the field, and someone who has helped launch business analytics programs at other universities. In this area as well as other areas of the Department, hiring of analytics-oriented faculty has been a distinct trend.

Gies as a whole is making business analytics pervasive across the college. Groups of faculty in every department focus on analytics in their business application areas. The Illinois-Deloitte Foundation Center for Business Analytics is a College-wide resource advancing analytics efforts in the College. Associate Dean Robert Brunner, the Director of the Center, is a College and Campus leader in the analytics area. Gies offers over two dozen analytics courses, with more added every year. Gies requires two core analytics classes for all undergraduate majors. Gies includes analytics courses in nearly every master's program and offers analytics concentrations in every STEM-designated master's program. The College has developed and will continue to develop a range of computational support, software licenses, datasets, and training support for business analytics coursework and experiential learning projects. Accordingly, Gies possesses the faculty, the courses, and the infrastructure support to offer a full program in Business Analytics.

Offering a business analytics program helps Gies in important ways. It will help bring together faculty across the College who focus on business analytics, providing the most substantial point of collaboration to date. It will help facilitate wide awareness and collaboration on analytics course development and course offerings. In addition, the existing concentrations in business application areas could serve both students in current programs and students in the new degree program. This opportunity for cross-program course enrollment will support the efficient development and maintenance of a range of elective offerings. Further, a business analytics program will help foster Gies's reputation as having a thriving community of business analytics scholars and students. Plus, a program will help increase our contact with companies recruiting business analytics students and program alumni who work in the analytics area. Given the fast pace of change in this area and the importance of faculty ties to companies able to enable research in this area, a business analytics program is important to the College's future.

We expect the Business Analytics master's program to help Gies further advance the campus reputation as an analytics leader. We also expect it to further our relationships with campus units. Gies faculty have been actively involved in campus-wide efforts to coordinate around analytics (such as the DS+ initiative at the undergraduate level). Through these interactions, it has become clear that Gies has a distinctive contribution in the study and teaching of analytic methods applied to business application areas, such as financial analytics and marketing analytics. As a result, a master's in Business Analytics will contribute to existing University strengths in analytics.

At present, there are two main graduate programs on campus in the analytics space. These are the Master of Computer Science (MCS; particularly its track in Data Science, MCS-DS) and the MS Information Management (MS/IM) program. The MCS-DS is aimed at developing student capabilities with data science methods and tools. This differs from the proposed Business Analytics program, which focuses on the business applications of these tools. It is possible some business applications courses might be of interest to MCS-DS students, and it is possible some advanced methods and tools courses will be of interest to business analytics students. But the two types of students are likely to have distinct backgrounds and interests, and we expect only a modest amount of back and forth between programs.

The MS/IM program is aimed at advancing student capabilities in managing and analyzing a large variety of types of information. As then Head of Business Administration Rindfleisch noted in his letter of support for the MS/IM proposal: "Our understanding is that the proposed MSIM program will be largely focused on how information is managed in educational, cultural, and scientific institutions, government agencies, and community organizations. In contrast, our MSTM program focuses on the management of information in business settings." Thus, from the start, we understood the business context as a distinct area of application from what MS/IM sought to cover. Further, in his letter of support, then Business Dean DeBrock said "every college on campus is well aware of the need to integrate data analytics into its curriculum and education." The efforts have Gies have thus far been at the level of courses and concentrations, and now we are turning to a full MS program. Our expectation is that our efforts are complementary. We see it as plausible that students in the MS/IM and the proposed Business Analytics program may have some overlapping interests and similar skills, and that some elective courses might appeal to both groups. It is possible a reliable, if modest, relationship will develop between these programs as students seek these complementary opportunities.

University of Illinois

**Briefly describe how this program will support the University's mission, focus and/or current priorities. Demonstrate the program's consistency with and centrality to that mission.**

We believe the introduction of a master's program in Business Analytics will benefit the University. It will be of direct benefit in attracting additional talented students and yield graduates in an important emerging area for advancing business practice. Consequently, this program would advance the University's mission to transform lives and serve society. In addition, as indicated by the relationship to other campus analytics education efforts, the program will expand campus offerings in an increasingly important interdisciplinary area.

State of Illinois

**Indicate which of the following goals of the Illinois Board of Higher Education's Strategic Initiative are supported by this program: (choose all that apply)**

Educational Attainment - increase educational attainment to match the best-performing states.

High Quality Credentials to Meet Economic Demand - Increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society.

Integration of Educational, Research and Innovation Assets - Better integrate Illinois' educational, research and innovation assets to meet economic needs of the state and its regions.

**Describe how the proposed program supports these goals.**

A new graduate program in Business Analytics would help us advance the four listed goals set by the Illinois Board of Higher Education. It directly improves our opportunity to increase education attainment by providing a new option to reach students who would otherwise not have attended the University of Illinois. As indicated by the market context of strong student and employer demand, this program would increase our ability to educate and provide a high quality credential that is in high demand in today's economy and society. As indicated by the opportunity to further link faculty across the College, around the University, and out to companies, this program would help foster integration of education, research, and innovation.

## Admission Requirements

### Desired Effective Admissions Term

Fall 2020

**Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.**

All applicants are expected to have a minimum grade point average of at least 3.0 (A = 4.00) for the last two years of undergraduate study and a 3.0 for any previous graduate work completed. The applicant must have completed at least one college level quantitative methods class. All applicants whose native language is not English must submit a minimum Test of English as a Foreign Language (TOEFL) score of at least 103 (iBT), 253 (CBT), or 610 (PBT); or minimum International English Language Testing System (IELTS) academic exam scores of 7.5 overall for full-status admission.

**Describe how critical academic functions such as admissions and student advising are managed.**

Gies College of Business has a complete unit dedicated to servicing graduate programs. The unit is overseen by the Associate Dean of Graduate Education. Additionally, there is a Director of Admissions and Recruiting and a Director of Administration who both supervise the staff teams providing recruiting, admission and student services, including all academic advising and support. The unit is well prepared to incorporate this new program.

## Enrollment

### Number of Students in Program (estimate)

#### Year One Estimate

30

#### 5th Year Estimate (or when fully implemented)

100

### Estimated Annual Number of Degrees Awarded

#### Year One Estimate

30

#### 5th Year Estimate (or when fully implemented)

100

### What is the matriculation term for this program?

Fall

## Delivery Method

### This program is available:

Blended

**Describe the use of this delivery method:**

Gies has demonstrated success in delivering on campus and online courses in Business Analytics. We anticipate interest from students in courses offered in both formats. For example, GMAC 2019 survey data indicate that potential students interested in residential Business Analytics graduate degree programs are most interested in a mix of residential and online classes. In addition, we have rapidly expanded our online course offerings in our MBA and Accountancy programs, and have experienced strong enrollments, strong student satisfaction, and are starting to see the career outcome benefits resulting from these efforts. Consequently, we believe offering Business Analytics using courses in both in person and online delivery formats is in the best interests of students.

We are preparing to launch a full-time, residential format in Fall 2021. We include within that planning the development of further online versions of courses for students who seek the added flexibility. After the program is successfully established, we may put forward a proposal for a fully online offering. The MS/IM program, for example, has provided both a residential and a fully online format, and the MCS program finds value in using a fully online format. Thus, we believe it is plausible that we will develop a fully online format as well. Our use of different course and program formats is based on our understanding of how to best meet student needs. We currently see strong interest for a full-time residential program. Should we see demand for a part-time, online program we will propose such a format and develop it.

## **Budget**

**Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?**

Yes

**Please explain/describe:**

The program will require a program director. All other staff functions would be performed by existing Business Graduate Programs staff.

**Additional Budget Information**

Attached is a projected budget for the first three years. The tuition levels are based on a competitive analysis of similar programs at peer institutions as well as tuition levels in related college programs. Further competitive analyses or college program tuition changes may lead to tuition changes in this program.

a. How will the unit create capacity or surplus to appropriately resource this program? If applicable, what functions or programs will the unit no longer support to create capacity?

Faculty will teach courses on-load or off-load as fits departmental and college resource allocation demands and faculty agreement. We will have sufficient faculty capacity to support the course offerings as a result of existing hiring efforts and changes in our College's overall teaching needs. Existing advisors are learning to support analytics students, but it is likely that we will need to hire additional advisors with depth in this space. The resources to do so will be drawn from program tuition.

b. Will the unit need to seek campus or other external resources? If so, please provide a summary of the sources and an indication of the approved support.

We are not seeking any additional campus or external resources.

**Attach File(s)**

Analytics projected budget for proposalmp.xlsx



## Resource Implications

### Facilities

**Will the program require new or additional facilities or significant improvements to already existing facilities?**

No

### Technology

**Will the program need additional technology beyond what is currently available for the unit?**

No

### Non-Technical Resources

**Will the program require additional supplies, services or equipment (non-technical)?**

No

## Resources

### Faculty Resources

**Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.**

Adding this program will allow our college to make better use of existing faculty talent. We do not anticipate a direct effect on our college's number of faculty. We expect a mix of added course sections for this program and co-enrollments in existing courses currently serving other programs. Consequently, we expect modest increases in class size and, as a result, student-faculty ratios. We do not expect changes in teaching loads.

### Library Resources

**Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.**

We do not expect the program to have a noticeable effect on our college's use of library resources, or that this program will place additional demands on the library's collections or staff.

### Instructional Resources

**Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?**

No

**Does this new program/proposed change result in the replacement of another program?**

No

**Does the program include other courses/subjects impacted by the creation/revision of this program?**

Yes

**Required courses**

BADM 554 - Enterprise Database Management  
FIN 510 - Big Data Analytics in Finance  
BDI 513 - Data Storytelling

**Explain how the inclusion or removal of the courses/subjects listed above impacts the offering departments.**

Adding this program will allow our college to make better use of existing faculty talent. We do not anticipate a direct effect on our college's number of faculty. We expect a mix of added course sections for this program and co-enrollments in existing courses currently serving other programs. Consequently, we expect modest increases in class size and, as a result, student-faculty ratios. We do not expect changes in teaching loads.

**Attach letters of support from other departments.**

ACCY approval.docx  
FIN support and approval.pdf  
Communication chains for acknowledgement letters.docx  
iSchool acknowledgement Business Analytics.pdf  
Analytics Acknowledgement Letter CS.pdf

## **Financial Resources**

**How does the unit intend to financially support this proposal?**

We have considerable faculty, staff, and infrastructure support to launch this program. We expect that enrollment and so revenue growth will provide the resources for expanding staff and infrastructure support.

**Will the unit need to seek campus or other external resources?**

No

**Attach letters of support**

MS Business Analytics SS Form.pdf

**Will an existing tuition rate be used or continue to be used for this program?**

Yes

**Is this program requesting self-supporting status?**

Yes

**If yes, please explain**

Please see uploaded file with self-supporting status justification.

## **Market Demand**

**What market indicators are driving this proposal? If similar programs exist in the state, describe how this program offers a unique opportunity for students:**

Research from Eduvantis specifically for Gies College of Business indicates a competitive edge in the State of Illinois for an MS in Business Analytics from the Gies College of Business:

- Well over 1 million jobs nationally for analysts
- Employer demand for the skill set is outpacing growth in other categories
- Chicago is the 2nd largest city seeking this particular skill set
- Gies has other attributes that help make it an attractive destination for those in the Midwest, especially in Illinois
- Domestically, those living in Illinois are the likeliest candidates, but the rest of the Midwest shouldn't be ignored
- Illinois residents have best preconceptions of Gies, but rest of Midwest is not far behind
- There are many undergraduates emerging from Illinois schools without a Masters option
- The stronger Gies' ties to the employer market in Chicago, the better to attract those from outside the state

The 2019 GMAC Corporate Recruiters Survey also reported the following:

This year's survey is the second time trending data on the hiring outlook for Master of Data Analytics talent was collected. Overall, 52 percent of responding companies plan to hire these graduates in 2019, compared with 37 percent that hired them in 2018. Hiring demand for Master of Data Analytics talent is strongest among Asia-Pacific and European employers, as about 2 in 3 companies in each region plan to make hires among this pool of 2019 graduates.

About half of US employers plan to make such hires (48%). As is the case with other program types, larger companies are more likely than smaller companies to have plans to hire Master of Data Analytics talent in 2019. A majority of Fortune Global 100, 500, and for profit, public companies have 2019 Master of Data Analytics hiring plans. Hiring demand for recent Master of Data Analytics graduates is strongest among employers in the technology (72%), energy/utilities (63%), and consulting (61%) industries.

**What type of employment outlook should these graduates expect? Explain how the program will meet the needs of regional and state employers, including any state agencies, industries, research centers, or other educational institutions that expressly encourage the program's development.**

The job market for students with skills and degrees in data analytics is growing. Many organizations are looking for entry level talent across business functions from Marketing, Finance, Business Operations, Business Strategy, and Talent Management and all require some skill set in data analytics. Gies has relationships with major companies in the Chicagoland area and then expanding across the country. Students have access to a plethora of job postings through the university and students are expected to follow the recruiting timeline and guidelines set by the company. Data from both GMAC and MBACSEA points towards the demand of employers to hire business students in to analytics roles.

**What resources will be provided to assist students with job placement?**

Gies Career Services offers a variety of job search assistance to students. Students will have a team career advisors and peer career advisors accessible through drop in services and scheduled appointments. The team offers advice on resume development, cover letters, job search tools, application documents, international resources, and case interviewing. Throughout the academic year in person workshops are offered along side subscription resources that can be accessed 24/7. Gies offers numerous resources to engage both domestic and international employers through career fairs, job boards, on campus recruiting activities, corporate visits, and virtual recruiting. Per MBACSEA standards services are provided to students up until six months after graduation.

## Program Regulation and Assessment

**Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning. (Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable).**

The Gies College of Business has a robust assurance of learning process, as it is required for AACSB accreditation. The College has a dedicated staff member who oversees all AACSB activities, as well as a dedicated eLearning team who work closely with faculty to create program assessment plans for their courses. The College will create an Assurance of Learning plan in line with AACSB and HLC standards as part of the rollout of the program. During the rollout phase, meetings with faculty to discuss program and course success will occur regularly and frequently to ensure that feedback and subsequent adjustments will occur as needed.

Each program has an Academic Director, a faculty member who leads assessment work, participates in Graduate Program Advisory Committee (Grad PAC), and oversees the implementation of any proposed and accepted changes to the program's structure, curriculum, and supporting activities. The current process for graduate programs includes the Academic Director meeting annually with faculty members to review curriculum plans, student feedback, benchmarking trends, and data in support of continuous improvement to ensure learning outcomes and results are aligned to internal and external stakeholder needs. As a result of such meetings, updates/changes, and enhancements are made to the curriculum and extracurricular offerings accordingly.

The assessment information is shared broadly with program, unit, and College leadership through both formal and informal presentations. Recipients of the information include Department Head, Associate Head, Assistant Dean of Graduate Education, members of the Grad PAC, Dean of the College, and faculty who teach in the program. The information is also maintained for inclusion in required AACSB accreditation reporting.

Our approach to program assessment is that it is a multi-level and multi-stage process.

Levels:

- 1- Course Learning and Course Outcomes: The extent to which students are meeting the learning objectives of every course.
- 2- Program Outcomes: To what extent students meet the expectations based on the "program graduate profile", as to how will graduates of this program be unique and knowledgeable as a result of having been part of this program
- 3- Student Satisfaction
- 4- Stakeholder satisfaction
- 5- Impact in individuals, academic units and society

Stages:

- 1- Formative evaluation will be conducted at the end of every course to address the results of
  - a) Level 1. The sources to be considered will be students' performance, attrition, and course evaluation, At the end of every term there will be a debriefing process to inform changes for upcoming semesters.
  - b) Level 3
- 2- Summative evaluation when a cohort completes the program will be conducted to assess
  - a) Level 2
  - b) Levels 3 and 4
- 3- Summative Evaluation over time will be conducted 2 and 3 years after a cohort has completed to assess impact of the program (Level 5). Source of information will include employment, type of employment, alumni income, and continuing education in other Gies programs.

**Is the career/profession for graduates of this program regulated by the State of Illinois?**

No

## Program of Study

"Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: <https://www.ibhe.org/assets/files/PrivateAdminRules2017.pdf>). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.

All proposals must attach the new or revised version of the Academic Catalog program of study entry. Contact your college office if you have questions.

#### For new programs, attach Program of Study

PROGRAM OF STUDY MS Analytics.docx

BDI 400 level explanation.pdf

Catalog Page Text

**Catalog Page Text: Description of program for the catalog page. This is not official content, it is used to help build the catalog pages for the program. Can be edited in the catalog by the college or department.**

Business Analytics, MS

for the degree of Master of Science in Business Analytics

department catalog page: Business Administration

department website: Business Administration

department faculty: Gies College of Business Directory

overview of college admissions & requirements: Gies Graduate Programs Requirements college website: Gies College of Business

email: grad@business.illinois.edu

The Master of Science (MS) in Business Analytics prepares students to master and apply contemporary analytics approaches to identify and address business problems and opportunities. It can be completed in residence or online. The course work includes foundations in managing, analyzing, and conveying patterns and implications of business data, followed by an array of analytics elective courses that enable students to deepen their skills and understanding in business application areas such as finance, accountancy, and marketing, among others. This is an intensive program for those interested in making decisions and innovating through the use of business analytics approaches.

Degree Requirements

for the degree of Master of Science in Business Analytics (on campus or on-line)

For additional details and requirements, refer to the department's Program Curriculum and the Graduate College Handbook.

#### Statement for Programs of Study Catalog

The MS in Business Analytics requires a minimum of 36 hours. The program rests on three required courses (12 credit hours) covering foundations of business data management, analysis, and communication. Students need to take at least four analytics elective courses (at least 16 credit hours) that will enable them to deepen their understanding of analytics methods and tools as well as to specialize in existing and emerging application areas. Finally, students are able to take up to two general elective courses (up to 8 credit hours) to provide foundations in application areas. Students with sufficient background may petition the academic director to replace core classes, with analytics electives. Additional analytics elective and general elective graduate course offerings may be approved by a program advisor.

Code	Title	Hours
<b>Core Courses:</b>		
BADM 554	Enterprise Database Management	4
FIN 510	Big Data Analytics in Finance for Predictive and Causal Analysis	4
BDI 513	Data Storytelling	4
<b>Analytics Electives</b>		16-24
BADM 502	Communicating with Data and Decision Making	
BADM 543	Technology Strategy	
BADM 557	Dec Support and Knowledge Mgt	
BADM 562	Social Media Strategy	
BADM 571	Digital Business & IT Strategy	
BADM 572	Stat for Mgt Decision Making	
BADM 573	Decision Analytics	
BADM 575	Supply Chain Analytics	

BADM 576	Data Science and Analytics	
BADM 577	Predictive Data Analytics	
BADM 590	Seminar in Business Admin	
FIN 552	Applied Financial Econometrics	
FIN 553	Machine Learning in Finance	
FIN 555	Financial Innovation	
FIN 567	Financial Risk Management	
FIN 580	Special Topics in Finance	
ACCY 512	Data Analytics for Management Accounting	
ACCY 569	Data Driven Decisions in Accounting	
ACCY 570	Data Analytics Foundations for Accountancy	
ACCY 571	Statistical Analyses for Accountancy	
ACCY 575	Data Analytics Applications in Accountancy	
ACCY 576	Data Preparation for Accounting	
ACCY 577	Machine Learning for Accounting	
ACCY 593	Special Research Problems	
<b>General Graduate Electives - Graduate General Electives - up to 8 hours of general graduate electives as needed to meet the minimum number of hours required.</b>		<b>0 to 8</b>
<b>Total Hours</b>		<b>36</b>

### Other Requirements

Requirement	Description
Other requirements may overlap	
Minimum 500-level Hours Required Overall	12
Minimum GPA:	3.0
International students with TOEFL scores below 613 (paper-based), 257 (computer-based), or 103 (internet-based), or IELTS score below 7.0, are required to take the English Placement Test (EPT) when they arrive on campus. After taking the EPT, most students are required to take a Business English course sequence. For these students, completion of the ESL course sequence is mandatory but does not count towards the 36 hour degree requirement.	

## EP Documentation

## DMI Documentation

### Program Reviewer Comments

**Kathy Martensen (kmartens) (Tue, 25 Feb 2020 15:32:00 GMT):**Rollback: 1) Other proposals reference this one as part of a multi-element change, yet that language tying it to those proposals is missing from this title. Please add language indicating the titles and keys of related proposals. 2) Graduate College will need to have the list of General Management Electives referenced here detailed for degree audit purposes. Suggest clarifying now rather than waiting for GC to catch and rollback. 3) BDI 413 currently showing up as not found; need to have that course, which is 1 of 3 core requirements, fully approved prior to review of the proposal.

**Kathy Martensen (kmartens) (Fri, 06 Mar 2020 01:39:04 GMT):**Rollback: One of the core courses is listed as BDI 413, which is not found, and no such course proposal exists in CIM courses.

Key: 961

**NANCY M. AMATO**Abel Bliss Professor and Head  
2248 Siebel Center  
namato@illinois.edu

March 18, 2020

To Whom It May Concern:

I am writing in support of the proposed new MS degree, to be offered by the Gies College of Business, entitled "Master of Science in Business Analytics". The Department of Computer Science believes that this is a positive addition to the overall portfolio of analytics-themed professional masters-level degrees at Illinois. The degree covers the application of data analysis methods for business purposes whereas the Master of Computer Science (including its Data Science track) covers the underlying algorithms, data structures and systems development for data analysis. The proposed MS in Business Analytics thereby provides a complement to the existing degrees offered by Computer Science.

Sincerely,

**Nancy M. Amato**  
Abel Bliss Professor and Head  
Department of Computer Science

March 11, 2020

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
Professor, Business Administration  
Gies College of Business  
3019 J Business Instructional Facility  
515 Gregory Drive  
Champaign IL, 61820

Dear Professor Loewenstein:

I am writing to acknowledge that the School of Information Sciences has received information on the proposed new MS degree, to be offered by the Gies College of Business, entitled "Master of Science in Business Analytics."

Given the data science and analytics expertise in the School of Information Sciences, as reflected in our MS in Information Management degree, we intend to have further discussion with the Gies College of Business regarding potential areas of collaboration.

Sincerely,



Eunice Santos  
Dean and Professor





**GRADUATE COLLEGE**

110 Coble Hall, MC-322  
801 S. Wright St.  
Champaign, IL 61820

**PROGRAM TUITION WAIVER POLICY PROPOSAL**

Proposals to establish or revise tuition waiver policy for a graduate program will follow a shared governance approval process (Department, School, College, Graduate College).

**Definitions of Tuition Waiver Policy Designations:**

**Traditional Programs.** Programs either designated as generating full or base-rate tuition waivers. Base rate waivers waives only the Resident Graduate Base tuition amount. Non-Residents or students in a program with an additional tuition differential will be responsible for the remaining portion of tuition.

**Reimbursable Programs.** Programs identified as programs that would be reimbursed from an appointing unit outside their academic college.

**Cost-recovery and self-supporting programs.** Students in approved cost-recovery and self-supporting programs are not eligible to receive tuition and fee waivers except statutory waivers. Students in these programs are not eligible to hold a waiver generating graduate appointment (Assistantship or Fellowship). Full time employees may be admitted to these programs, but their employee waiver is not eligible for use towards a program with this designation.

Additional information related to these tuition waiver designations can be found here:  
<http://www.grad.illinois.edu/gradhandbook/2/chapter7/tuition-waivers#otherprovisions>.

**PROGRAM INFORMATION**

**COLLEGE OR SCHOOL:** Gies College of Business

**PROGRAM(s) (Include Program Codes if applicable):**  
Proposed: Master of Science in Business Analytics

**REQUESTED DESIGNATION (Select desired designation type):**

Comments:

**JUSTIFICATION: On a separate sheet, please address the following.**

1. Describe the reasons for this request and explain: (a) the pros and cons of the classification requested, and (b) how the requested classification will benefit and not adversely affect the academic quality of the program.
2. What type of financial assistance will be offered to students in the program?
3. Has this program had past practice of offering graduate assistantships? If so, please describe.
4. What provisions will be made to communicate the new classification to prospective and newly admitted students?

**APPROVALS: (May use Adobe Signature or print and sign the document)**

Department Executive Officer Signature and Date:  \_\_\_\_\_

Disciplinary College Signature and Date: Mark P. Pechter \_\_\_\_\_

Graduate College Signature and Date: Allison McKinney 3/9/20 \_\_\_\_\_



**Self-Supporting Program Request Justification  
for Proposed MS in Business Analytics**

1. Describe the reasons for this request and explain: (a) the pros and cons of the classification requested, and (b) how the requested classification will benefit and not adversely affect the academic quality of the program.

*Gies College of Business has many one-year specialized MS programs that are classified as self-supporting or cost-recovery. In FA19 over 550 students were enrolled in these programs. The academic quality continues to remain high, and demand for these programs is stable. These programs provide a significant source of revenue for the College, which allows for the continued investment in ongoing development and delivery of a high-quality business education for both undergraduate and graduate students at Illinois.*

2. What type of financial assistance will be offered to students in the program?  
*If funds are available (at the discretion of the Dean) a limited amount of merit scholarships may be offered to qualified applicants to help retain a high-quality and diverse population.*

3. Has this program had past practice of offering graduate assistantships? If so, please describe.  
*This is a new program and therefore no assistantships have been offered however, for all other programs with this designation no assistantships or waivers have been offered.*

4. What provisions will be made to communicate the new classification to prospective and newly admitted students?

*The program's self-supporting classification will be communicated to prospective students via the program's website as well and all other communications throughout the recruiting and admissions process. Furthermore, once students are on campus this information is shared on a regular basis by academic advisors and program leadership.*

	Cohort 1	Cohort 2	Cohort 3	Cohort 4
	FY22	FY23	FY24	FY25
Projected Enrollment	30	50	60	80
Tuition per Student (International)	\$ 48,000	\$ 48,960	\$ 49,939	\$ 50,938
Tuition per Student (Domestic)	\$ 35,000	\$ 35,700	\$ 36,414	\$ 37,142
Tuition Revenue	\$ 1,362,000	\$ 2,315,400	\$ 2,834,050	\$ 3,854,307
<b>PROGRAM EXPENSES</b>				
Total Administration	\$ 866,311	\$ 916,137	\$ 956,594	\$ 986,002
Total Program Activities and Operations	\$ 98,000	\$ 161,000	\$ 192,500	\$ 255,500
Additional Operational Expenses	\$ 291,750	\$ 267,085	\$ 92,427	\$ 17,775
Scholarships	\$ 72,000	\$ 122,400	\$ 149,818	\$ 203,752
Total Expenses	\$ 1,328,061	\$ 1,466,622	\$ 1,391,338	\$ 1,463,029
<b>Net Revenue to College</b>	\$ (380,561)	\$ 405,185	\$ 1,033,010	\$ 1,975,717

<b>Cohort 5</b>
<b>FY26</b>
<b>100</b>
\$ 51,957
\$ 37,885
\$ 4,914,242
\$ 1,016,362
\$ 318,500
\$ 18,131
\$ 259,784
\$ 1,612,777
\$ 2,854,978



## Communication chain related to the Master of Computer Science

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 24, 2020 at 9:24 AM  
**To:** "Amato, Nancy M" <namato@illinois.edu>  
**Cc:** Lorena Nicholas <lorenan@illinois.edu>, "Hart, John C" <jch@illinois.edu>, Robert Brunner <bigdog@illinois.edu>  
**Subject:** Re: Gies College of Business Request for Acknowledgement Letter

Dear Professor Amato,

I am writing once more with a request for a letter of acknowledgement.

Many thanks,

Jeff

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 17, 2020 at 8:13 PM  
**To:** "Amato, Nancy M" <namato@illinois.edu>  
**Cc:** Lorena Nicholas <lorenan@illinois.edu>, "Hart, John C" <jch@illinois.edu>, Robert Brunner <bigdog@illinois.edu>  
**Subject:** Gies College of Business Request for Acknowledgement Letter

Dear Professor Amato,

Robert Brunner and I are writing to request a letter of acknowledgement for a Gies College of Business proposal to launch a new MS in Business Analytics. We enclose a draft of the proposal and also draft text for letter of acknowledgement in case it is helpful, although of course feel free to say what you wish.

We've been fortunate to have had discussions with John Hart about the proposal for about a month, as we thought the MCS-DS was the closest CS program and as John is so good at reading and advising on proposals. I believe his conclusion was that the overlap between programs was likely to be minimal, given the different enrollment requirements and different program goals. I believe he also thought that the on-ramp for the MCS program could be more of an opportunity for interaction. We agreed with these conclusions, and we are entirely open to exploring such interactions as our program develops.

We are happy to provide further information or discuss it should you wish to do so.

Much appreciated,

Jeff

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
Fellow, Center for Professional Responsibility in Business and Society  
Professor, Carle Illinois College of Medicine  
Professor, Gies College of Business  
University of Illinois, Urbana-Champaign  
3019J Business Instructional Facility  
217-333-2471  
[jloew@illinois.edu](mailto:jloew@illinois.edu)  
<https://loewenstein.web.illinois.edu/>

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 17, 2020 at 5:56 PM  
**To:** "Hart, John C" <jch@illinois.edu>  
**Cc:** Robert Brunner <bigdog@illinois.edu>, Lorena Nicholas <lorenan@illinois.edu>, "Hart, John C" <jch@illinois.edu>  
**Subject:** Re: MCS-DS and Gies Business relationship

Very much, thanks John!

Best,

Jeff

---

**From:** Hart, John C <jch@illinois.edu>  
**Sent:** Monday, February 17, 2020 5:55:07 PM  
**To:** Loewenstein, Jeffrey <jloew@illinois.edu>  
**Cc:** Brunner, Robert J <bigdog@illinois.edu>; Nicholas, Lorena K <lorenan@illinois.edu>; Hart, John C <jch@illinois.edu>  
**Subject:** Re: MCS-DS and Gies Business relationship

I assume this will be a self-supporting program. The budget is better suited for internal discussion. Senate Ed Pol is less concerned that the program will generate revenue and is more concerned that the revenue is used for faculty. The senate in general does not like to see revenue per student. They want to see the faculty are not overworked and have the resources they need to teach effectively.

The MCS is the degree program and DS is a track of courses within it. Minor point but could be a distraction. I assume you'll get letters from CS and IS.

The program indicates hybrid status with students taking courses on-campus. The question that will be asked on Ed Pol is that once the program becomes fully online, how long before they shut down the on-campus offering. I don't think the message has been received that the MBA went totally online due to market pressures, so might be a good opportunity to state what the Gies policy is for on-campus/online program decisions.



Hope that helps,  
-John

---

**From:** Loewenstein, Jeffrey <jloew@illinois.edu>  
**Sent:** Monday, February 17, 2020 5:34 PM  
**To:** Hart, John C  
**Cc:** Brunner, Robert J; Nicholas, Lorena K  
**Subject:** Re: MCS-DS and Gies Business relationship

John,

I wanted to follow up with the latest draft of the business analytics proposal, and to see about anything further we could provide before you felt it appropriate to send a letter of acknowledgement.

This draft incorporates your suggestions as well as those of others. We will be loading it into CIM this week so that we can submit to the grad college by Tuesday so it can be discussed at the grad college executive committee meeting the following week.

Much appreciated,

Jeff

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Thursday, January 30, 2020 at 1:16 PM  
**To:** "Hart, John C" <jch@illinois.edu>  
**Cc:** Robert Brunner <bigdog@illinois.edu>  
**Subject:** Re: MCS-DS and Gies Business relationship

That's great John, thank you. I'll get that updated.

Best,

Jeff

**From:** "Hart, John C" <jch@illinois.edu>  
**Date:** Thursday, January 30, 2020 at 1:12 PM  
**To:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Cc:** "Brunner, Robert J" <bigdog@illinois.edu>, "Hart, John C" <jch@illinois.edu>  
**Subject:** RE: MCS-DS and Gies Business relationship

Let's start at the back and the program of study. I would list the three required courses right in the table for the program of study for the 12 hours of core. Then require 16 hours of analytics electives, chosen from your list. Then allow eight hours of additional coursework, perhaps from an expanded list that includes the analytics electives, or just allow them to be general electives.

Make sense?

I think CS courses could be in the general electives, but students would have to have the proper prereqs to take a CS graduate level course.

Thanks,  
-John

**From:** Loewenstein, Jeffrey <jloew@illinois.edu>  
**Sent:** Thursday, January 30, 2020 12:39 PM  
**To:** Hart, John C <jch@illinois.edu>  
**Cc:** Brunner, Robert J <bigdog@illinois.edu>  
**Subject:** Re: MCS-DS and Gies Business relationship

Hi John,

I'm attaching the draft proposal for the MS Business Analytics program. We would appreciate a letter of acknowledgement, if not support and even potential future collaboration in some manner, should we find opportunities. If there is further information we can provide that would be useful, we are of course happy to do so.

As you are a very capable reader of such proposals, if you have suggestions for us, we certainly welcome them.

We intend to submit this to the graduate college in late February, and then on from there. We've been in contact with Allison in the grad college and Kathy in the provost's office, and will continue to be.

Many thanks,

Jeff

<< January 22 in person meeting >>

**From:** "Hart, John C" <jch@illinois.edu>  
**Date:** Monday, January 20, 2020 at 10:59 AM  
**To:** Jeffrey Loewenstein <jloew@illinois.edu>

**Cc:** "Brunner, Robert J" <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>, "Hart, John C" <[jch@illinois.edu](mailto:jch@illinois.edu)>  
**Subject:** RE: MCS-DS and Gies Business relationship

Sure. See you then.

Thanks,  
-John

**From:** Loewenstein, Jeffrey <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Sent:** Monday, January 20, 2020 10:43 AM  
**To:** Hart, John C <[jch@illinois.edu](mailto:jch@illinois.edu)>  
**Cc:** Brunner, Robert J <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>  
**Subject:** Re: MCS-DS and Gies Business relationship

Thanks John!

Perhaps I could catch you right after the CADGE meeting Wednesday for, say, 15-20 minutes?

Best,

Jeff

**From:** "Hart, John C" <[jch@illinois.edu](mailto:jch@illinois.edu)>  
**Date:** Monday, January 20, 2020 at 9:00 AM  
**To:** Jeffrey Loewenstein <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Cc:** "Brunner, Robert J" <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>, "Hart, John C" <[jch@illinois.edu](mailto:jch@illinois.edu)>  
**Subject:** RE: MCS-DS and Gies Business relationship

I'm happy to discuss. We have strict prerequisites for our MCS courses that might prevent business students without key CS coursework from taking MCS courses, but we are also developing a year-long on-ramp designed to prepare students without CS experience to be able to take MCS courses.

Thanks,  
-John

**From:** Loewenstein, Jeffrey <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Sent:** Sunday, January 19, 2020 8:15 PM  
**To:** Hart, John C <[jch@illinois.edu](mailto:jch@illinois.edu)>  
**Cc:** Brunner, Robert J <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>  
**Subject:** MCS-DS and Gies Business relationship

Hi John,

I hope this note finds you well. I wanted to set up a time to talk with you about a possible collaboration.

Robert Brunner and I are finalizing a proposal for an MS program in business analytics here in at Gies, and we thought it might be beneficial for everyone if we could build some bridges between programs.

I look forward to talking with you.

Best,

Jeff

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
Fellow, Center for Professional Responsibility in Business and Society  
Professor, Carle Illinois College of Medicine  
Professor, Gies College of Business  
University of Illinois, Urbana-Champaign  
3019J Business Instructional Facility  
217-333-2471  
[jloew@illinois.edu](mailto:jloew@illinois.edu)  
<https://loewenstein.web.illinois.edu/>

#### **Communication chain related to the Master of Science in Information Management**

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 24, 2020 at 9:57 AM  
**To:** "Santos, Eunice E" <eesantos@illinois.edu>  
**Cc:** "Hopper, Christine" <cmhopper@illinois.edu>, "Blake, Catherine" <clblake@illinois.edu>, "Diesner, Jana" <jdiesner@illinois.edu>, Robert Brunner <bigdog@illinois.edu>, "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>  
**Subject:** Re: New Gies MS Business Analytics Program

Eunice,

We are requesting a letter of acknowledgement from you regarding our proposed MS in Business Analytics.

I met with Emily, Jana, and Cathy on Feb 17 for a discussion about how our proposed program might relate to the MS/IM program at the iSchool. I believe we came away with a sense that there were clear distinctions between the programs as well as opportunities for interaction.

In case it is of value, I am attaching a brief sample letter, but of course it is entirely up to you.

Many thanks,

Jeff

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 24, 2020 at 9:32 AM  
**To:** "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>, "Blake, Catherine" <clblake@illinois.edu>, "Diesner, Jana" <jdiesner@illinois.edu>  
**Cc:** Lorena Nicholas <lorenan@illinois.edu>  
**Subject:** Re: iSchool and Business Meeting

Dear Emily, Catherine, and Jana,

I am looking forward to receiving a letter of acknowledgement regarding our proposal for a new MS in Business Analytics.

Many thanks,  
Jeff

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Monday, February 17, 2020 at 5:27 PM  
**To:** "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>, "Blake, Catherine" <clblake@illinois.edu>, "Diesner, Jana" <jdiesner@illinois.edu>  
**Cc:** Lorena Nicholas <lorenan@illinois.edu>  
**Subject:** Re: iSchool and Business Meeting

Dear Emily, Catherine, and Jana,

Many thanks for your time today to discuss our business analytics proposal and how it relates to MS/IM. I look forward to further discussions about how our programs can thrive and serve students.

I'm cc'ing Lorena Nicholas, who will be ensuring that your letter of acknowledgement is entered into the system. Both of us are reachable to answer further questions should you have them.

Best,

Jeff

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
Fellow, Center for Professional Responsibility in Business and Society  
Professor, Carle Illinois College of Medicine  
Professor, Gies College of Business  
University of Illinois, Urbana-Champaign  
3019J Business Instructional Facility  
217-333-2471  
jloew@illinois.edu  
<https://loewenstein.web.illinois.edu/>

<< February 17 in person meeting >>

Hi Emily,

Yes. I'm happy to come to wherever is convenient.

Best,

Jeff

**From:** "Knox, Emily Joyce Magdelyn" <[knox@illinois.edu](mailto:knox@illinois.edu)>  
**Date:** Tuesday, February 4, 2020 at 1:10 PM  
**To:** Jeffrey Loewenstein <[jloew@illinois.edu](mailto:jloew@illinois.edu)>, "Diesner, Jana" <[jdiesner@illinois.edu](mailto:jdiesner@illinois.edu)>  
**Cc:** "Blake, Catherine" <[cblake@illinois.edu](mailto:cblake@illinois.edu)>  
**Subject:** RE: New Gies MS Business Analytics Program

Hi Jeff,

Does February 17 at 3:30pm work for you?

Emily

Emily J.M. Knox, PhD, MSLIS  
Associate Professor  
Interim Associate Dean for Academic Affairs  
iSchool @ Illinois

217-300-0212 | emilyknox.net

**From:** Loewenstein, Jeffrey <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Sent:** Monday, February 3, 2020 4:45 PM  
**To:** Knox, Emily Joyce Magdelyn <[knox@illinois.edu](mailto:knox@illinois.edu)>; Diesner, Jana <[jdiesner@illinois.edu](mailto:jdiesner@illinois.edu)>  
**Cc:** Blake, Catherine <[clblake@illinois.edu](mailto:clblake@illinois.edu)>  
**Subject:** Re: New Gies MS Business Analytics Program

Hi Emily,

Thanks so much. If we schedule something within the next week, I can commit to being available at the following times. Please know that we plan to submit the proposal to the graduate college on Feb 25. If we are unable to meet before then, I will request a letter of acknowledgement from Eunice, and our discussion of possible collaborations will follow.

Feb 17: after 12pm  
Feb 24: after 12pm  
Feb 25: after 12pm  
Feb 26: before 11am, 1-3:30pm, after 5pm  
Feb 27: before 12pm, after 4:30pm  
Feb 28: after 12pm  
Mar 2: after 1pm  
Mar 3: any time  
Mar 4: before 11am, after 5pm  
Mar 5: before 3pm

Much appreciated,

Jeff

**From:** "Knox, Emily Joyce Magdelyn" <[knox@illinois.edu](mailto:knox@illinois.edu)>  
**Date:** Monday, February 3, 2020 at 3:07 PM  
**To:** Jeffrey Loewenstein <[jloew@illinois.edu](mailto:jloew@illinois.edu)>, "Diesner, Jana" <[jdiesner@illinois.edu](mailto:jdiesner@illinois.edu)>  
**Cc:** "Blake, Catherine" <[clblake@illinois.edu](mailto:clblake@illinois.edu)>  
**Subject:** RE: New Gies MS Business Analytics Program

Hi Jeff,

We have added Cathy Blake, our MS/IS program director, to the list.

In order to make sure that everyone is included, we would like to reschedule this meeting for after February 17<sup>th</sup> at the earliest. Please let me know what days and times work for late February and early March.

Emily

Emily J.M. Knox, PhD, MSLIS  
Associate Professor  
Interim Associate Dean for Academic Affairs  
iSchool @ Illinois  
217-300-0212 | emilyknox.net

**From:** "Santos, Eunice E" <eesantos@illinois.edu>  
**Date:** Monday, February 3, 2020 at 1:34 PM  
**To:** "Diesner, Jana" <jdiesner@illinois.edu>, Jeffrey Loewenstein <jloew@illinois.edu>, Robert Brunner <bigdog@illinois.edu>, "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>  
**Cc:** "Hopper, Christine" <cmhopper@illinois.edu>, "Blake, Catherine" <clblake@illinois.edu>  
**Subject:** Re: New Gies MS Business Analytics Program

Folks,

The iSchool team has grown by one! Cathy Blake (cc'd) should also be a part of the discussions. Thanks.

Eunice

---

**From:** Diesner, Jana <jdiesner@illinois.edu>  
**Sent:** Friday, January 31, 2020 9:57 AM  
**To:** Loewenstein, Jeffrey; Santos, Eunice E; Brunner, Robert J; Knox, Emily Joyce Magdelyn  
**Cc:** Hopper, Christine  
**Subject:** RE: New Gies MS Business Analytics Program

Jeff,

Great. I am running a fellowship application writing workshop Monday 4-6pm at the iSchool, and would only be available after 6pm. Jana

**From:** Jeffrey Loewenstein <jloew@illinois.edu>  
**Date:** Friday, January 31, 2020 at 9:52 AM  
**To:** "Santos, Eunice E" <eesantos@illinois.edu>, Robert Brunner <bigdog@illinois.edu>, "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>, "Diesner, Jana" <jdiesner@illinois.edu>  
**Cc:** "Hopper, Christine" <cmhopper@illinois.edu>  
**Subject:** Re: New Gies MS Business Analytics Program

Many thanks Eunice.



Emily and Jana, I am excited to talk with you about your program, our proposed program, and about possible collaborations. Our calendars show that we all have an opening Monday after 4pm. Could I come your way then?

Much appreciated,

Jeff

**From:** "Santos, Eunice E" <eesantos@illinois.edu>  
**Date:** Friday, January 31, 2020 at 9:34 AM  
**To:** Jeffrey Loewenstein <jloew@illinois.edu>, Robert Brunner <bigdog@illinois.edu>  
**Cc:** "Hopper, Christine" <cmhopper@illinois.edu>, "Knox, Emily Joyce Magdelyn" <knox@illinois.edu>, "Diesner, Jana" <jdiesner@illinois.edu>  
**Subject:** Re: New Gies MS Business Analytics Program

Jeff,

Emily Knox and Jana Diesner will serve as the iSchool team to work with you. They are both cc'd.

Cheers!

Eunice

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**From:** Loewenstein, Jeffrey <jloew@illinois.edu>  
**Sent:** Thursday, January 30, 2020 12:32 PM  
**To:** Santos, Eunice E; Brunner, Robert J  
**Cc:** Hopper, Christine  
**Subject:** Re: New Gies MS Business Analytics Program

Eunice,

Attached please find the draft proposal. I look forward to talking with the appropriate person in the college about possible collaborations.

Thank you,

Jeff

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
Fellow, Center for Professional Responsibility in Business and Society  
Professor, Carle Illinois College of Medicine  
Professor, Gies College of Business

University of Illinois, Urbana-Champaign  
3019J Business Instructional Facility  
217-333-2471  
jloew@illinois.edu  
<https://loewenstein.web.illinois.edu/>

**From:** "Santos, Eunice E" <eesantos@illinois.edu>  
**Date:** Thursday, January 23, 2020 at 11:56 PM  
**To:** "Brunner, Robert J" <bigdog@illinois.edu>  
**Cc:** Jeffrey Loewenstein <jloew@illinois.edu>, "Hopper, Christine" <cmhopper@illinois.edu>  
**Subject:** Re: New Gies MS Business Analytics Program

Jeff,

Pleased to meet you over email.

Robert, Jeff,

Could you please send the proposal and I'll see who should be appropriate to work with you on this and also on grad ed collaboration?

Robert,

I'm cc'ing Christine who can work on coordinating a time for us to catch up about potential opportunities.

Cheers!

-Eunice

---

**From:** Brunner, Robert J <bigdog@illinois.edu>  
**Sent:** Wednesday, January 22, 2020 5:12 PM  
**To:** Santos, Eunice E <eesantos@illinois.edu>  
**Cc:** Loewenstein, Jeffrey <jloew@illinois.edu>  
**Subject:** New Gies MS Business Analytics Program

Hi Eunice,

I can't believe we are already starting the Spring semester, seems like yesterday we were in the senior

leadership retreat. Anyway, I am contacting you today for several reasons.

First, I want to introduce Jeff Loewenstein, Associate Dean for Graduate Education here in Gies. He and I are co-chairing a committee that has devised a new MS in Business Analytics degree. We are planning to submit this to Senate Ed-Pol soon and wanted to see if we could get a letter of acknowledgement or even support for our new program (we are happy to draft such a letter if that would be helpful) that we can submit with our proposal. If there is someone specific at the iSchool we should be talking to about this, please let us know.

I should note that Jeff has constructed the actual proposal and he recently indicated to me that he took inspiration from the iSchool MS IM proposal. Our new program is also designed with a small core, leaving options for many electives.

Second, we are interested in talking about collaboration across the graduate education space. With the launch of our new program, there may be interest among our students to take course in each other's program. I know Jeff has thought a lot about this and has ideas on different collaboration models. Again, if this is best directed to someone else, just let us know.

Finally, I would love to sit down and catch up and talk about broader collaborative opportunities if you have the time and interest.

Best,

Robert

**Nicholas, Lorena K**

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**Subject:** FW: Feedback from Deb on new BDI course

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**From:** Forgacs, Debra Ann <dforgacs@illinois.edu>  
**Sent:** Monday, February 24, 2020 11:14 AM  
**To:** Nicholas, Lorena K <lorenan@illinois.edu>  
**Cc:** Forgacs, Debra Ann <dforgacs@illinois.edu>  
**Subject:** RE: Feedback from Deb on new BDI course

Hi,  
If the intention of the proposing unit of the course (ACCY) is to offer the same content to grads and undergrads then the 400-level is the correct level to choose. Cross-listing in general is a difficult thing to manage, for set-up, for grading – maintenance type issues, for both instructors and administrative units. Honestly if the 400 level course was set up prior to your new program you would not have a choice – ACCY would have already created their 400 level course for both grads and undergrads and that would be the course you want to choose for your major.

The Provost site states on this page under the Cross-Listing section that the course level numbers must be the same:  
<https://provost.illinois.edu/policies/policies/courses/proposing-new-courses/>

So if you do the 300 & 500 level courses meeting together although allowed – it is a “meets-with” situation not a true crosslist.

There is information on both the Provost site and the Grad College site stating that 400-level courses are appropriate from UG/Grads

<https://grad.illinois.edu/courses-procedures>

If you want more verification about a 400-level being ok for your program, please write to Allison McKinney in the grad college. But on both sites listed above the definition of the 400-499 level course is:  
*Upper level undergraduate and graduate courses, typically taken by seniors and beginning graduate students (may be designated for undergraduates only, or both)*

I hope this helps,  
Deb

**DEB FORGACS**  
*SR ASST REGISTRAR*

Office of the Registrar

University of Illinois at Urbana-Champaign  
Fac Mgmt & Sched/OAR  
901 W. Illinois St. | M/C 063  
Urbana, IL 61801  
217.265.9838 | [dforgacs@illinois.edu](mailto:dforgacs@illinois.edu)

## PROGRAM OF STUDY:

### **Business Analytics, MS**

*for the degree of Master of Science in Business Analytics*

department catalog page: [Business Administration](#)

department website: [Business Administration](#)

department faculty: [Gies College of Business Directory](#)

overview of college admissions & requirements: [Gies Graduate Programs Requirements](#)

college website: [Gies College of Business](#)

email: [grad@business.illinois.edu](mailto:grad@business.illinois.edu)

The Master of Science (MS) in Business Analytics prepares students to master and apply contemporary analytics approaches to identify and address business problems and opportunities. It can be completed in residence or online. The course work includes foundations in managing, analyzing, and conveying patterns and implications of business data, followed by an array of analytics elective courses that enable students to deepen their skills and understanding in business application areas such as finance, accountancy, and marketing, among others. This is an intensive program for those interested in making decisions and innovating through the use of business analytics approaches.

### **Degree Requirements**

*for the degree of Master of Science in Business Analytics (on campus or on-line)*

The MS in Business Analytics requires a minimum of 36 hours. The program rests on three required courses (12 credit hours) covering foundations of business data management, analysis, and communication. Students need to take at least four analytics elective courses (at least 16 credit hours) that will enable them to deepen their understanding of analytics methods and tools as well as to specialize in existing and emerging application areas. Finally, students are able to take up to two general elective courses (up to 8 credit hours) to provide foundations in application areas. Students with sufficient background may petition the academic director to replace core classes, with analytics electives. Additional analytics elective and general elective graduate course offerings may be approved by a program advisor.

BADM 554 Enterprise Database Management	4
FIN 510 Big Data Analytics	4
BDI 413 Data Storytelling	4
Graduate Analytics Electives	16-24
Graduate General Electives	0-8
<b>Total Required Hours</b>	<b>36</b>

### **Other Requirements<sup>1</sup>**

Other requirements may overlap	
Minimum 500-level Hours Required Overall	12
Minimum GPA:	3.0

International students with TOEFL scores below 613 (paper-based), 257 (computer-based), or 103 (internet-based), or IELTS score below 7.0, are required to take the English Placement Test (EPT) when they arrive on campus. After taking the EPT, most students are required to take a Business English course sequence. For these students, completion of the ESL course sequence is **mandatory** but does not count towards the 36 hour degree requirement.

*For additional details and requirements, refer to the department's [Program Curriculum](#) and the [Graduate College Handbook](#).*

## **Course List:**

### **Core Courses**

BADM 554 Enterprise Database Management  
FIN 510 Big Data Analytics  
BDI 413 Data Storytelling (new course proposal pending)

### **Graduate Analytics Electives**

BADM 502 Communication with Data  
BADM 543 Technology Strategy  
BADM 557 Decision Support and Knowledge Management  
BADM 562 Social Media Strategy  
BADM 571 Digital Business and IT Strategy  
BADM 572 Stat for Mgt Decision Making  
BADM 573 Decision Analytics  
BADM 575 Supply Chain Analytics  
BADM 576 Data Science and Analytics  
BADM 577 Predictive Data Analytics  
BADM 590 Applications of Analytics in Business  
    Restricted to the relevant subset, which is currently: Consumer Analytics, Social Media Analytics; Business Intelligence; Big Data Infrastructure; Operations Analysis

FIN 552 Applied Financial Econometrics  
FIN 553 Machine Learning in Finance  
FIN 555 Financial Innovation  
FIN 567 Financial Risk Management  
FIN 580 Special Topics in Finance  
    Restricted to the relevant subset, which is currently: Quantamental Investment, Introductory Python, Data Science & Python, Financial Data Management

ACCY 512 Data Analytics for Management Accounting  
ACCY 569 Data Driven Decisions in Accounting  
ACCY 570 Data Analytics Foundations for Accountancy  
ACCY 571 Statistical Analysis for Accountancy  
ACCY 575 Data Analytics Applications in Accountancy  
ACCY 576 Data Preparation for Accounting  
ACCY 577 Machine Learning for Accounting  
ACCY 578 Infonomics  
ACCY 593 Accountancy Analytics Applications

ACCY [xxxx] Risk Management and Innovation

**Sample Graduate General Electives**

BADM 520 Marketing Management

BADM 508 Leadership and Teams

BADM 566 Supply Chain Management

BADM 565 Strategic Sourcing

MSTM 567 Process Management

MSTM 574 Simulation and Risk Analysis

FIN 500 Introduction to Finance

FIN 511 Investments

FIN 521 Advanced Corporate Finance

FIN 512 Derivatives

FIN 515 Fixed Income Portfolios

ACCY 500 Accounting Measurement, Reporting, and Control

ACCY 503 Managerial Accounting

**EP DOCUMENTATION:**

**DMI DOCUMENTATION:**





**Nicholas, Lorena K**

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**Subject:** FW: draft proposals regarding graduate programs

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**From:** Chan, Kuo Chi <l-[chan2@illinois.edu](mailto:l-chan2@illinois.edu)>  
**Sent:** Friday, February 21, 2020 1:10 PM  
**To:** Nicholas, Lorena K <[lorenan@illinois.edu](mailto:lorenan@illinois.edu)>  
**Subject:** Re: draft proposals regarding graduate programs

I have reviewed both proposals and confirm that Finance will offer the teaching support required. This agreement has the support of the department's Executive Committee.

Thanks,  
Louis

---

**From:** Loewenstein, Jeffrey <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Sent:** Tuesday, February 18, 2020 3:25 PM  
**To:** Chan, Kuo Chi <l-[chan2@illinois.edu](mailto:l-chan2@illinois.edu)>  
**Cc:** Richmond, Hanna C <[hrichtmnd@illinois.edu](mailto:hrichtmnd@illinois.edu)>; Nicholas, Lorena K <[lorenan@illinois.edu](mailto:lorenan@illinois.edu)>  
**Subject:** Re: draft proposals regarding graduate programs

Dear Louis,

I know we have discussed this in person, but could you confirm for me by email that you have had a chance to review the analytics and management proposals, and that the finance department is happy to teach the courses involved in each?

We are finalizing proposals to submit for review, and we were advised that written confirmation helps avoid the chance of misunderstandings in the review process.

Much appreciated,

Jeff

---

**From:** Jeffrey Loewenstein <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Date:** Thursday, February 6, 2020 at 2:17 PM  
**To:** Kuo Chi Chan <l-[chan2@illinois.edu](mailto:l-chan2@illinois.edu)>  
**Cc:** Brooke Elliott <[wbe@illinois.edu](mailto:wbe@illinois.edu)>, Lorena Nicholas <[lorenan@illinois.edu](mailto:lorenan@illinois.edu)>, Robert Brunner <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>  
**Subject:** draft proposals regarding graduate programs

Dear Louis,

Attached are draft proposals that are going to college committees for review and discussion regarding changes to our graduate programs that would take effect in Fall 2021. I share them for your information and your feedback.

Assuming all is in order, we will then send them to the graduate college later this month, then on through the rest of the process. Our goal is to be able to start planning this summer so that we can have course schedules and student recruiting plans in place this fall for enrollments in revised graduate programs starting Fall 2021.

At a high level, there is no news here, as we are just proposing what we have discussed over the past year. We are suggesting that we launch an MS in Business Analytics, and we are suggesting that we integrate our three management master's programs. The particulars have undergone considerable discussion and development though, thanks to colleagues from across the college, including the program academic directors and other faculty representatives. We welcome your suggestions if you see opportunities for further improvement.

The documents provide an overview of where we believe we are heading in the near term, as well as proposal language that allows us to do what we think is in the best interests of our students and college now as well as to make improvements in the future.

I am happy to discuss these and any other issues with you.

Best,

Jeff

Jeffrey Loewenstein  
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Fellow, Center for Professional Responsibility in Business and Society  
Professor, Carle Illinois College of Medicine  
Professor, Gies College of Business  
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3019J Business Instructional Facility  
217-333-2471  
[jloew@illinois.edu](mailto:jloew@illinois.edu)  
<https://loewenstein.web.illinois.edu/>

**From:** "Sougiannis, Theodore" <[sougianni@illinois.edu](mailto:sougianni@illinois.edu)>  
**Date:** Monday, February 17, 2020 at 1:19 PM  
**To:** Jeffrey Loewenstein <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Cc:** Brooke Elliott <[wbe@illinois.edu](mailto:wbe@illinois.edu)>, Lorena Nicholas <[lorenan@illinois.edu](mailto:lorenan@illinois.edu)>, Robert Brunner <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>  
**Subject:** RE: draft proposals regarding graduate programs

Hi Jeff,

Thanks for giving me the opportunity to make suggestions.  
I read the proposals last weekend and I found them clear and well documented. I do not see any issues with the ACCY courses listed in the proposals.  
I am sorry for the slow response and any inconvenience I caused.  
Best wishes.  
Theo

**From:** Loewenstein, Jeffrey <[jloew@illinois.edu](mailto:jloew@illinois.edu)>  
**Sent:** Thursday, February 6, 2020 2:18 PM  
**To:** Sougiannis, Theodore <[sougianni@illinois.edu](mailto:sougianni@illinois.edu)>  
**Cc:** Elliott, W Brooke <[wbe@illinois.edu](mailto:wbe@illinois.edu)>; Nicholas, Lorena K <[lorenan@illinois.edu](mailto:lorenan@illinois.edu)>; Brunner, Robert J <[bigdog@illinois.edu](mailto:bigdog@illinois.edu)>  
**Subject:** draft proposals regarding graduate programs

Dear Theo,

Attached are draft proposals that are going to college committees for review and discussion regarding changes to our graduate programs that would take effect in Fall 2021. I share them for your information and your feedback.

Assuming all is in order, we will then send them to the graduate college later this month, then on through the rest of the process. Our goal is to be able to start planning this summer so that we can have course schedules and student recruiting plans in place this fall for enrollments in revised graduate programs starting Fall 2021.

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I am happy to discuss these and any other issues with you.

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Jeff

Jeffrey Loewenstein  
Associate Dean of Graduate Education  
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