Program Change Request

APPROVED BY SENATE
04/06/2026

EP.26.139_FINAL
Approved by EP 03/23/2026

New Proposal

Date Submitted: 07/01/25 4:19 pm

Viewing: : Economics + Data Science, BSLAS

Last edit: 03/27/26 9:55 am

Changes proposed by: Jamie Thomas-Ward

In Workflow

1. U Program Review
2. Gen Ed Review
3. 1405-ECON Head
4. 1583-STAT Head
5. 1434-SSCDS Head
6. 1992-IS Head
7. 1257-MATH Head
8. KP Committee Chair
9. LP Committee Chair
10. KP Dean
11. LP Dean
12. KV Dean
13. University Librarian
14. COTE Programs
15. Provost
16. Senate EPC
17. Senate
18. U Senate Conf
19. Board of Trustees
20. IBHE
21. HLC
22. Catalog Editor
23. DMI

Approval Path

1. 07/09/25 3:48 pm Donna Butler (dbutler): Approved for U Program Review
2. 07/17/25 1:45 pm Melissa Steinkoenig (menewell): Approved for Gen

Ed Review
3. 07/17/25 2:39 pm Tera Martin-Roy (tnmartin): Approved for 1405-ECON Head
4. 07/24/25 1:14 pm Feng Liang (liangf): Approved for 1583-STAT Head
5. 01/16/26 11:29 am Mahesh Viswanathan (vmahesh): Approved for 1434-SSCDS Head
6. 01/23/26 9:51 am Brandon Batzloff (batzloff): Approved for 1992-IS Head
7. 01/25/26 4:19 pm Lee DeVille (rdeville): Approved for 1257-MATH Head
8. 01/27/26 9:41 am Katherine Freeman (katefree): Approved for KP Committee Chair
9. 01/28/26 9:52 am Amber Holmes (aflowers): Approved for LP Committee Chair
10. 01/28/26 2:50 pm Rashid Bashir (rbashir): Approved for KP Dean
11. 01/28/26 2:58 pm

Emily Knox (knox): Approved for LP Dean
12. 02/25/26 4:38 pm Stephen Downie (sdownie): Approved for KV Dean
13. 02/26/26 11:16 am Tom Teper (tteper): Approved for University Librarian
14. 02/26/26 12:55 pm Suzanne Lee (suzannel): Approved for COTE Programs
15. 03/04/26 2:56 pm Brooke Newell (bsnewell): Approved for Provost

Proposal Type

Proposal Type:	Major (ex. Special Education)

Administration Details

Official Program Name	Economics + Data Science, BSLAS
Diploma Title	Bachelor of Science in Liberal Arts and Sciences
Sponsor College	Liberal Arts & Sciences
Sponsor Department	Economics
Sponsor Name	George Deltas, Department Head & Jamie Thomas-Ward, Director of Undergraduate Studies

Sponsor Email	deltas@illinois.edu, thomas99@illinois.edu	
College Contact	Stephen R. Downie, Associate Dean for Curricula and Academic Policy	College Contact Email
sdownie@illinois.edu		
College Budget Officer	Michael Wellens	
College Budget Officer Email	wellens@illinois.edu	

If additional stakeholders other than the Sponsor and College Contacts listed above should be contacted if questions during the review process arise, please list them here.

Melissa Reedy, murray@illinois.edu (LAS Assistant Director Course & Cir Dvt)

Does this program have inter-departmental administration?

Yes

Interdisciplinary Colleges and Departments (list other colleges/departments which are involved other than the sponsor chosen above)

Please describe the oversight/governance for this program, e.g., traditional departmental/college governance, roles of elected faculty committees and of any advisory committees.

In Spring 2017, the College of Liberal Arts & Sciences submitted an Investment for Growth Proposal to “Jump Start Data Science”, focusing on undergraduate data science education. Interim Provost John Wilkin supported the proposal but called on LAS to work with three colleges (Engineering, the iSchool, and the Gies College of Business) to develop a collaborative approach to undergraduate data science at Illinois.

Those deans formed a task force (herein the “Data Science Education Task Force” or DSETF) to explore opportunities and make proposals for undergraduate data science education at Illinois. The DSETF conducted its work during academic years 2017—2018 and 2018—2019. At the core of their work was the vision that every Illinois undergraduate should have the opportunity to have a meaningful exposure to data science.

In February 2019, the four deans agreed to support a shared framework for X + Data Science majors, based on suggestions from the DSETF. The framework consisted of the following pieces.

1) A set of core competencies and common features which will be expected of X + Data Science majors, together with a reference standard set of courses and activities that fulfills the data science portion of those expectations.

2) Each college can propose its own X + Data Science majors, which will be majors of that college. They may differ from the reference standard approach. When they do so, they should explain how the proposed major provides the expected competencies and features of an X + Data Science major in a manner that is appropriate for their students.

Currently, this program will be subject to the oversight of the campus Data Science Educational Council (DSEC), which oversees all academic programs in data science that span across academic units at the University of Illinois. The DSEC will:

- Keep track of offerings related to data science to facilitate collaboration and reduce redundancy;
- Facilitate the development of data science programs by connecting undergraduate data science education resources across the university;
- Advise colleges on matters related to undergraduate data science education; and
- Review X+Data Science major proposals, commenting on how they meet the expectations for X+Data Science majors and engage collaboratively and strategically with the university’s resources in data science education.

College Liberal Arts & Sciences

Department Statistics

Is there an additional department involved in governance?

Yes

College Grainger College of Engineering

Department Siebel School Comp & Data Sci

Is there an additional department involved in governance?

Yes

College Information Science, School of

Department Information Sciences

Is there an additional department involved in governance?

Yes

College Liberal Arts & Sciences

Department Mathematics

Are there additional department(s) involved in governance?

No

Effective Catalog Term

Effective Catalog Term	Fall 2026
Effective Catalog	2026-2027

Proposal Title

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberal Arts and Sciences, include the Graduate College for Grad Programs)

Establish the Bachelor of Science in Liberal Arts and Sciences in Economics plus Data Science in the College of Liberal Arts and Sciences

Does this proposal have any related proposals that will also be revised at this time and the programs depend on each other? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently and together as needed. Format your response like the following "This BS proposal (key 567) is related to the Concentration A proposal (key 145)"

No.

Program Justification

Provide a brief 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.

Ubiquitous digital technology and the generation of massive amounts of data are rapidly transforming society and multiple fields of inquiry. This transformation has created exciting opportunities and worrisome scenarios across multiple domains of human endeavor. Like the industrial technologies of the early-20th century, the new digital technologies of the early-21st century have great potential to transform society, for good or ill. The University of Illinois has a high calling to prepare students to lead society's digital transformation.

Substantial demand exists, both from students and from employers, for educational programs in data science. The Bureau of Labor Statistics projects that employment for data scientists will grow by 36% from 2021-2031, compared to an average growth rate of 5% for all jobs.

Data science is emerging as a subject of great importance in many domains of human and scholastic endeavor. National policy documents for data science majors emphasize that engagement with an application domain is an important part of data science education. The University of Illinois' white paper on data science education recommended the development of "X + Data Science Majors" in order to offer broad multidisciplinary opportunities for Illinois students to engage with data science.

Economics has increasingly shifted its focus from pure theory to empirical applications over the past four decades as the availability of data and inexpensive, widely accessible computational power grew. Over the past 15 years, economics has enthusiastically adopted machine learning and other methods designed for working with Big Data. There has been a natural progression from classical-statistics-based techniques to harnessing the recent computational ability to discover complex relationships not a priori foreseen by humans. These techniques have been embraced and adopted rapidly by the field and are already commonplace.

Data scientists and those who understand the human and policy implications of data are in demand across society. Likewise, economics majors are already in demand for these types of positions across sectors such as finance, government, and healthcare. Given the explosive growth in data science jobs predicted by the Bureau of Labor Statistics, combining the strong job market opportunities of the economics degree with data science skills will produce graduates to fill a variety of positions across the state and the nation.

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a resul 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 outside of the sponsoring department impacted by the creation/revision of this program? If Yes is selected, indicate the appropriate courses and attach the letter of support/acknowledgement.

Yes

Courses outside of the sponsoring department/interdisciplinary departments:

MATH 220 - Calculus
MATH 221 - Calculus I
MATH 227 - Linear Algebra for Data Sci
MATH 257 - Linear Algebra w Computat Appl
MATH 231 - Calculus II
STAT 107 - Data Science Discovery
STAT 207 - Data Science Exploration
CS 277 - Algo & Data Stru for Data Sci
CS 307 - Model & Learning in Data Sci
IS 467 - Ethics & Policy for Data Scien
IS 477 - Data Mgmt, Curation, & Reprodu

Please attach any letters of support/ acknowledgement for any Instructional Resources. Consider faculty, students, and/or other impacted units as appropriate.	Statistics_LetterofSupport.pdf Math_LetterofSupport.pdf iSchool_LetterofSupport.pdf DataScience_LetterofSupport.docx Siebel_Letter of Support.pdf

Program Features

Academic Level	Undergraduate
Does this major have transcripted concentrations?	No

What is the longest/maximum time to completion of this program?

4 years

What are the minimum Total Credit Hours required for this program?

120

CIP Code	307101 - Data Analytics, General.

Is this program part of an ISBE approved licensure program?

No

Will specialized accreditation be sought for this program?

No

Describe the institution’s plan for seeking specialized accreditation for this program. Indicate if there is no specialized accreditation for this program or if it is not applicable.

Not applicable.

If this program prepares graduates for entry into a career or profession that is regulated by the State of Illinois, describe how it is aligned with or meets licensure, certification, and/or entitlement requirements.

Not applicable.

Does this program prepare graduates for entry into a career or profession that is regulated by the State of Illinois?

No

Program of Study

Provide detailed information (course rubrics, numbers, and credit hours) of how a student could obtain 40 credit hours of upper-division coursework.

This degree program will include the following 40 hours of upper division coursework:
3 credit hours: ECON 203 (prereqs ECON 202 and Math 220/221)
3 credit hours: IS 467
4 credit hours: CS 307
3 credit hours: ECON 302
4 credit hours: CS 277 (prereqs Stat 207 and Math 220/221/234)
3 credit hours: ECON 471
3 credit hours: IS 477
12 credit hours: Advanced Economics (ECON) Coursework
3 credit hours: ECON 397
2 credit hours: Upper division free elective
Total: 40 credit hours

Attach Program of Study related information here. Economics+Data Science BSLAS Sample Sequence.docx

Catalog Page Text - Overview Tab

Catalog Page Overview Text

The Economics + Data Science BSLAS simultaneously incorporates a strong foundation in data science and economics, including a research or discovery experience as part of the degree.

Students in the Economics + Data Science BSLAS learn foundational economics concepts and analysis coupled with data science applications. Graduates will learn theories and analytical methods designed to discover complex economic relationships. They will be equipped with the knowledge, tools, and skills to manage and analyze large datasets to extract economic insights and develop policy and recommendations relevant to a variety of sectors including business and financial entities, government agencies, healthcare, and environmental organizations.

E-mail: econug@illinois.edu

Departmental distinction: To graduate with distinction requires both an Illinois GPA of 3.25 or higher and an Illinois Economics GPA of 3.5 or higher. In addition, students must complete a research project under the supervision of a Department of Economics faculty member and must be recommended by an Economics faculty member.

Statement for

Programs of Study
Catalog

Graduation Requirements

Minimum hours required for graduation: 120 hours. Minimum required major and supporting course work normally equates to 65-66 hours.

University Requirements

Minimum of 40 hours of upper-division coursework, generally at the 300- and 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (§3-801) and in the Academic Catalog.

General Education Requirements

Students must complete the campus General Education (Gen Ed) requirements. Some Gen Ed requirements may be met by courses required and/or electives in the program. Economics Gen Ed courses may be viewed at: Gened Approval History - ECON

Composition I	4-6
Advanced Composition	3
Humanities & the Arts (6 hours)	6
Natural Sciences & Technology (6 hours)	6
Social & Behavioral Sciences (6 hours)	6
fulfilled by ECON 102 & ECON 103	
Cultural Studies: Non-Western Cultures (1 course)	3
Cultural Studies: US Minority Cultures (1 course)	3
Cultural Studies: Western/Comparative Cultures (1 course)	3
Quantitative Reasoning (2 courses, at least one must be Quantitative Reasoning I)	6-10
fulfilled by MATH 220 or MATH 221, MATH 231, ECON 202, STAT 107, STAT 207	
Language Other Than English (Completion of the fourth semester or equivalent of a language other than English, or completion of the third semester in two different languages other than English is required)	0-20

Orientation and Professional Development

LAS 101	Design Your First Year Experience	1
OR		

LAS 100 & LAS 101	Success in LAS for International Students and Design Your First Year Experience	3
OR		
LAS 102	Transfer Advantage	1
Total Hours		**1 or 3**
Major Core Requirements and Electives		
Economics Core		**33**
ECON 102	Microeconomic Principles	3
ECON 103	Macroeconomic Principles	3
ECON 202	Economic Statistics I	3
ECON 203	Economic Statistics II	3
ECON 302	Inter Microeconomic Theory	3
ECON 471	Intro to Applied Econometrics	3
Advanced Economics (ECON) Coursework in consultation with an academic advisor		12
MATH 231	Calculus II	3
Data Science Core		**32-33**
Mathematical Foundations		**7-8**
MATH 220	Calculus (Mathematical Foundations)	
or MATH 221	Calculus I	
MATH 227	Linear Algebra for Data Science	
or MATH 257	Linear Algebra with Computational Applications	
Data Science Fundamentals		**12**
STAT 107	Data Science Discovery	
STAT 207	Data Science Exploration	
CS 307	Modeling and Learning in Data Science	
Computational Fundamentals		**4**
CS 277	Algorithms and Data Structures for Data Science	
Social Impact in Data Science		**6**

IS 467	Ethics and Policy for Data Science
IS 477	Data Management, Curation & Reproducibility

Research or Discovery Experience **3**

One of the most important skills a student will gain in the Economics + Data Science BSLAS will be the ability to work with data in context. A minimum of 3 credit hours of research or discovery experience is required. This can be achieved through one of the options listed below.

Option 1

ECON 397	Senior Research I

Students in this class will spend a semester applying economic data to real world issues in the Econometrics Data Lab.

Option 2

Participation in a Department of Economics approved study abroad program in which at least three hours of advanced courses in Economics and Data Science are the focus. All courses will be selected and preapproved under the supervision of an Economics Academic Advisor and will be pre-articulated.

Corresponding Degree	BSLAS Bachelor of Science in Liberal Arts and Sciences

Program Regulation and Assessment

Plan to Assess and Improve Student Learning

Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.

Student Learning Outcomes

Analytical Skills/Problem-Solving: Students will be able to effectively visualize, conceptualize, articulate, and solve complex problems or address problems that do not have a clear answer, with available information, through experimentation and observation, using data analytics, microeconomic and macroeconomic theory, and calculus and statistical tools.

Critical Thinking: Students will be able to apply economic analysis to everyday problems helping them to understand events, evaluate specific policy proposals, compare arguments with different conclusions to a specific issue or problem, and assess the role played by assumptions in arguments that reach different conclusions to a specific economic or policy problem.

Quantitative Reasoning: Students will be able to apply empirical evidence to economic arguments. Specifically, they will obtain and/or collect relevant data, develop empirical evidence using appropriate statistical techniques, and interpret the results of such analyses. Students will learn to construct and utilize predictive models in order to analyze economic issues.

Specialized Knowledge and Practical Application: Students will be able to develop deeper analytical, critical, and quantitative skills in specialized areas by applying economic concepts to real world situations.

Interdisciplinary Knowledge, Diverse Issues, and Global Consciousness: Students will broaden their global and disciplinary knowledge, enhancing their understanding of the world around them both within economics and beyond.

Communication and Leadership: Students will be able to work as part of a team and lead others, ensuring that they are prepared to navigate diverse audiences and situations.

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The Department of Economics will ensure that students are meeting learning outcomes through the following assessment activities:

1. We will produce a learning objectives map to identify how each course connects to learning outcomes.

2. Successful completion of core coursework (ECON 102, 103, 202, 203, 302, and MATH 220/221 and 231).

3. Selection and successful completion of Advanced Economics (ECON) Coursework in a variety of topical areas.

4. Assessment of research or discovery experience artifacts required for this degree--each student must participate in a capstone experience through which learning will be demonstrated via creation of one or more artifacts.

5. Audits of student major progress and overall grades each semester, and proactive intervention.

6. Student surveys to understand the student experience within the major.

7. Advising meetings with students, informal discussions, and observations about the curriculum and specific courses.

8. Discussions with Alumni, Recruiters/Professionals, and Graduate Programs about students, preparation, and need.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Economics faculty expect a 70% success rate in direct measures of student success as outlined above. Satisfactory performance is expected when a percentage-based outcome is not available.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Data gathered through assessment activities will be used to support student success in the following ways:

Performance feedback assessed through coursework and course completion rates will be utilized to adjust course content and academic support if learning outcomes are not being met at the expected 70% success rate.

Feedback from students through advising meetings and student surveys will be utilized to provide appropriate academic support and intervention where necessary.

Assessment of student research or discovery experience artifacts will be shared with department committees and utilized to expand additional research opportunities and revisit learning outcomes for future cohorts.

Program Description and Requirements
Attach Documents

Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

Admission Requirements

Desired Effective Admissions Term: Fall 2026

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.

For first-time freshmen: Review and admission are both managed at the campus level.
Admission requirements will be the same as those for first-year applicants to the Economics BALAS at Illinois, as outlined here: https://www.admissions.illinois.edu/apply/freshman/requirements#coursework

- English: 4 years required
- Math: 3 or 3.5 years required, 4 years recommended. Calculus is preferred for Economics students, if offered at the high school attended.
- Social sciences: 2 years required, 4 years recommended
- Lab sciences: 2 years required, 4 years recommended
- Language other than English: 2 years required, 4 years recommended

For Transfer students/Intercollegiate Transfer (ICT) students
Transfer students/ICT students will be evaluated according to the following criteria:

- ECON major GPA of 2.50 or higher
- For ICT students: At least 1 ECON course completed at Illinois

Completion of the following courses with minimum grades indicated:

- ECON 102 Microeconomic Principles (grade not lower than B)
- ECON 103 Macroeconomic Principles (grade not lower than B)
- Math 220 Calculus (grade not lower than C)

Recommended courses for transfer students are:

- Language Other Than English
- ECON 202 Economic Statistics I
- ECON 203 Economic Statistics II
- Math 231 Calculus II
- Rhet 105 Writing and Research

Enrollment

Number of Students in Program (estimate)

Year One Estimate	25	5th Year Estimate (or when fully implemented)
200		

Estimated Annual Number of Degrees Awarded

Year One Estimate	0	5th Year Estimate (or when fully implemented)

200

What is the matriculation term for this program?

Fall

Budget

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

No

Additional Budget Information

The Economics + Data Science BSLAS will be supported by the Department of Economics without the need for additional funding. Course capacity exists to accommodate the increased demand, and no additional faculty will be required. It is expected that some students declaring this major would have otherwise declared an Economics major, and therefore overall growth of the department is expected to be modest to intermediate based on this degree option. Additionally, infrastructure already exists via existing X + DS programs to support students in this major.

Attach File(s)

Financial Resources

How does the unit intend to financially support this proposal?

This degree program will not impact departmental resources. The program will be supported by existing resources as well as through tuition. No additional financial resources will be required for this program.

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

No

Attach letters of support

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Undergraduate Base Tuition; differential tuition for all LAS X + DS majors, which is being requested by LAS

IBHE

What is the specific title of the proposed degree program as it would be listed in the IBHE Program Inventory? The name should be what typically is used for similar programs nationally. Provide a short description of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates.

Economics + Data Science, BSLAS

The ubiquity of massive data sets in economics and in other fields of the sciences and humanities has created enormous demand for data scientists across society. This demand exists not only for coding-intensive data scientists but also for data scientists who can work collaboratively, applying these concepts to real-life applications. Similarly, economics has increasingly emphasized the application of empirical methods to direct applications as data availability has increased. Economics has likewise seen an increase in student demand for applied data analysis and related skills. The training provided by this program to develop data science skills with economic applications is ideal for student learning, preparation for post-graduate study in economics and related disciplines, and employment in almost every sector.

Data scientists and those who understand the human and policy implications of data are in demand across society. Economics majors are already in demand for these types of positions across sectors such as finance, government, and healthcare. Given the explosive growth in data science jobs predicted by the Bureau of Labor Statistics, combining the strong job market opportunities of the economics degree with data science skills will produce graduates to fill a variety of positions across the state and the nation. In 2021 Illinois had the fifth-highest employment of Data Scientists of any state, and projected employment of data scientists in the state of Illinois is expected to grow by 29% by 2030 according to the US Department of Labor. This program will thus prepare future graduates to serve the employment needs of our state.

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).

The university's 2018 Strategic Plan The Next 150 calls for "[p]rovid[ing] all Illinois students the opportunity to have a meaningful exposure to data science."

Data science is an area of scholarship involving principles for data collection, storage, integration, analysis, inference, communication, and ethics in the context of the ubiquitous collection of massive data sets that have emerged in recent years. The field draws from a number of existing fields, including information technology, computer science, statistics, mathematics, and business analytics. However, core data science concepts are not being conveyed by mainstream training in any single other field because data science is not reducible to any of the preexisting fields. Data science is an emerging and important technique in economics.

One of the hallmarks of data science is that it outward-looking, engaging richly with multiple domains of application, including economics. In response to the university's strategic plan and in recognition of the interdisciplinary and outward-looking nature of data science, the Siebel School of Computing and Data Science, the Department of Statistics, the Department of Mathematics, the Gies College of Business, and the I-School collaborated to develop a framework for all X + Data Science majors, enabling students to learn the principles of data science while engaging deeply with the discipline of economics.

In the Economics + Data Science BSLAS, the Department of Economics offers coursework and advising in Economics; the Siebel School of Computing and Data Science, the Departments of Mathematics and Statistics, and the i-School offer a core framework of courses and advising in data science; and the Economics program provides coursework and student-driven independent study and/or research experiences that integrate economics and data science.

The Department of Economics is well positioned to offer this dual program. Economics features extensive faculty who employ data science in their research. Student demand is high, as indicated by the popularity of "Big Data" and courses such as Economic Forecasting and Introduction to Applied Econometrics, and we have the capacity to teach them. We can also offer additional experiential learning via undergraduate research opportunities and our Econometrics Data Lab that launched in the fall of 2023.

This degree program differs from other undergraduate degree programs in data science because it provides the student with substantial exposure to data science and to scholarship in economics. It is also distinct from the three existing majors in the Department of Economics as outlined below.

The existing Economics BALAS degree provides a foundation in a wide variety of theoretical and applied economics concepts without a particular focus on computational modeling or methods of preparing large datasets to extract insights.

The existing Econometrics and Quantitative Economics BSLAS degree develops skills to utilize sophisticated statistical modeling to address economic issues. However, this major is not designed to teach skills such as creating computational programs, building datasets, or cleaning and preparing data for use in particular applications.

The existing Computer Science + Economics BSLAS degree prepares students to create and improve computer coding and software specifically designed for economic applications. It teaches them how to design computer architecture and learn programming languages in order to apply those techniques to the study of economics. The Economics + Data Science BSLAS will be distinct from the Computer Science + Economics BSLAS. Whereas the Computer Science + Economics BSLAS students will learn how to create computer programs for custom applications, Economics + Data Science BSLAS students will learn how to collect, categorize, and clean data, with a focus on methods for extracting meaningful insights from economic phenomena, crafting specific research questions, and interpreting that data through statistics and visualizations in order to make predictions and recommendations.

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.

The university continually examines its educational programs to respond to emerging student demand, societal need, and economic opportunity. Data science has rapidly emerged as a field for which there is broad-based demand across many areas of economic activity and across many fields of scholarship. For example, economics is preparing for a tsunami of data with the new and upcoming surveys. We need students trained in how to use these data in Economics to best leverage our participation. The university recognized the general need in its 2018 Strategic Plan The Next 150, which called on the campus to “[p]rovide all Illinois students the opportunity to have a meaningful exposure to data science.” The degree program proposed here is part of that response.

Discuss projected future employment and/or additional educational opportunities for graduates of this program. Compare estimated demand with the estimated supply of graduates from this program and existing similar programs in the state. Where appropriate, provide documentation by citing data from such sources as employer surveys, current labor market analyses, and future workforce projections. (Whenever possible, use state and national labor data, such as that from the Illinois Department of Employment Security at http://lmi.ides.state.il.us/ and/or the U.S. Bureau for Labor Statistics at http://www.bls.gov/).

Large data sets arising from an increasingly inter-connected world mean that data scientists and those who understand the human and policy implications of data are in demand across society. Economics majors are already in demand for these types of positions. We need to take advantage of this and do our best to prepare our majors for the types of jobs that engage with large data and with statistical analysis of data, including machine learning. Economics bachelor's degree graduates are already in demand in sectors such as finance, government, and healthcare. Given the explosive growth in data science jobs predicted by the Bureau of Labor Statistics, combining the strong job market opportunities of the economics degree with data science skills will produce graduates to fill a variety of positions across the state and the nation. In 2021 Illinois had the fifth-highest employment of Data Scientists of any state, and projections by the Illinois Department of Employment Security reveal that the employment of data scientists in the state of Illinois is expected to grow by 29% by 2032. This program will thus prepare graduates to serve the employment needs of our state.

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

Students will have access to the Economics Career Services Office, which provides specialized resources to assist students with internships and job placement. The Economics Career Services staff also provide regular professional development such as career fair preparation, networking events, an annual etiquette dinner, and individualized assistance with resumes and job searching. Students in this major will have access to our course ECON 198: Economics at Illinois, which is a 1 credit course designed to teach job searching skills, introduce students to professional opportunities within the discipline, and connect students with alumni. In addition to these resources, students will also have access to LAS Career Services, which is available to all students in the College of LAS, and to the campus-wide Career Center, which is available to all University of Illinois Urbana-Champaign students.

If letters of support
are available attach
them here:

Comparable Programs in Illinois

Identify similar programs and sponsoring institutions in the state, at both public and private colleges and universities. Compare the proposed program with these programs, and discuss its potential impact upon them. Provide complete responses, do not reference website links.

Illinois Institute of Technology offers a Bachelor of Science in Economics and Data Science. The curriculum of this program is similar to what we propose, however, IIT's degree is housed in a business school and focuses more on a corporate approach whereas our program allows students to study economics from a much wider perspective. Illinois Institute of Technology is a private R2 research institution located in Chicago with approximately 7,000 students, whereas University of Illinois Urbana-Champaign is a large, public, R1 research institution located in Urbana with approximately 59,200 students. IIT's small size, private status, and urban location in a different region of the state all make it distinct from Illinois also make it unlikely that our program would significantly impact their enrollment.

Dominican University offers a B.S. in Data Science. This program is a joint effort of their Math and Computer Science departments, without an Economics component. This is a private university with an enrollment of under 4,000 students that is located in a different region than University of Illinois Urbana-Champaign. Impact on this institution is very unlikely.

Knox College offers a B.A. in Data Science. This program combines math, statistics, and computer science courses but does not include any focus on economics. This is a small, private institution with enrollment of 1,200 students located in another region of the state than University of Illinois Urbana-Champaign. Impact on this institution is very unlikely.

Olivet Nazarene University offers a B.S. in Data Science. This program is a combination of math and computer science courses without an economics component. Olivet is a small, private institution with an enrollment of 3,500 students that is located in a different region of the state than University of Illinois Urbana-Champaign. Impact on this institution is unlikely.

Comparable
Programs in Illinois
Attach Documents

A Thriving Illinois: Higher Education Paths to Equity, Sustainability, and Growth

IBHE is charged to develop a strategic plan to address the present and future aims and needs and requirements of higher education in Illinois (110 ILCS 205/6) (from Ch. 144, par. 186) Sec. 6). Illinois Administrative Code:

1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois Respond to the following questions about how the proposed program will support the three goals of A Thriving Illinois: Higher Education Paths to Equity, Sustainability, and Growth Strategic Plan.

Equity

Describe institutional-level plans to close equity gaps in access, progression, completion, and attainment and the implications for the proposed program. More specifically, provide institutional-level plans for attracting, recruiting, retaining, and completing a diverse group of students including working adults, students of color, transfer and low-income students and implications for the proposed program. Explain how progress will be monitored.

Institution-level plans: Access, progression, completion, and attainment

At the System level, the University of Illinois prioritizes closing equity gaps among the citizens across Illinois, within our urban and rural communities, and beyond. While the fundamental needs that will drive greater economic vitality vary greatly across zip codes in the state, it is clear that closing equity gaps among our citizens remains crucial to achieving the mission of the University of Illinois System.

Supportive of IBHE's A Thriving Illinois plan and aligning its Equity Strategy #2, the UI System's Access 2030 Strategic Plan is a comprehensive initiative designed to increase the number of graduates from underrepresented groups by 50 percent by the end of the decade. This will include students from disadvantaged backgrounds – ethnic and racial, rural, and urban. This initiative will strengthen the University of Illinois' bedrock commitment to the public good, ensuring that as we work to improve life in our state, we are not leaving communities behind. It will build on ongoing efforts to create more opportunities for Illinoisans of all backgrounds. The initiative is being tooled to close equity gaps throughout the pipeline, working from K-12 through college, including our community colleges. Access 2030 embodies Equity Goal 2 of A Thriving Illinois, providing a framework for and supporting the three institutions' equity plans.

In addition to Access 2030, the University of Illinois System is engaged in various programs and supports aimed at student recruitment and retention. One such program is Salute to Academic Achievement (SAA). SAA has run for 40 years, and targets underrepresented minority groups and students from low-sending counties. The students are invited either for their academic performance (identified by GPA and standardized test score) or by nomination by a high school counselor (must meet minimum GAP requirement and belong to target population) to attend a college-fair type event. Participants are recognized for academic achievements, and have the opportunity to meet with college, admissions, financial aid, and housing representatives from all three UI System universities. Participants also receive fee waivers for future admissions applications for each university along with an individualized Certificate of Academic Achievement. We are currently expanding the number of students who receive invitations.

The President's Award Program (PAP) and PAP Honors provide financial support for students admitted to one of the UI Systems three institutions from historically underrepresented groups. The PAP award is $5,000 per year available for a maximum of four years while the PAP Honors Program awards $10,000 per year for four years. Over $359.1 million has been distributed

between 2006 and 2024.

A third example of System level support is the UI System Transfer Guarantee Program, which aligns with Growth Strategy #8. Cognizant that many underrepresented minority students begin their higher education journeys at community colleges, this program guarantees admission to students who apply to any of the three campuses if they graduated from an Illinois high school, attended an Illinois community college, and attained 36 graded credit hours and a minimum 3.0 GPA. We are currently developing program enhancements to expand the guarantee to all students who graduated from Illinois high schools and who have maintained the academic criteria noted above for Fall 2025.

Finally, to curb out-of-state migration, all of the four-year publics unite for a college fair once per year. This event will be slightly enhanced to now attract high school students earlier in their academic journey in an effort to reach them sooner in the college decision-making process.

In alignment with the UI System's Access 2030 Strategic Plan.at the institution level is the University of Illinois Urbana-Champaign's 2024-2025 Equity Plan. Submitted to IBHE in May, 2024 outlines pursuit of two aspirational goals:

1) Close the graduation rate gap between Underrepresented Minorities (URM) and Non-URM students by 2030.
2) Increase by 50% the number of undergraduate degrees earned by URM students over the next 12 years.

These goals reflect the university's commitment to close equity gaps by investing in expanding current and new initiatives and deliberately understanding the campus climate. To address the equity gaps between URM and Non-URM undergraduate students, the campus will work on four focus areas:
1) PreK-12 Engagement
2) Undergraduate Recruitment and Enrollment
3) Undergraduate Retention and Completion
4) Campus Climate and Culture.

The PreK-12 engagement is the newest area of work at the institution level and represents an intentional framing that includes the centralization of programs, the development of partnerships, and the enhancement of opportunities across the state to increase college awareness and readiness. In addition to continued investment in current financial aid programs such as Illinois Promise and Illinois Commitment, as part of the Equity Plan, the university will also be investing in new initiatives such as the Digital Innovation for Equity and Excellence in College Admissions (DIEECA) work.

As retention and completion requires intentional, coordinated work, Student Success @ Illinois has become a permanent, funded area to lead in the review and interrogation of policies and practices that are often considered barriers for success for specific groups of students. Additionally, the university is investing in expanded support for first generation students such as the NASPA First Scholars Network and growth of bridge/early move-in programs.

Diversity, equity, and inclusion work is led by the Office of the Vice Chancellor for Diversity, Equity, and Inclusion (OVCDEI). The OVCDEI's goals, ongoing assessments, and initiatives impact students as well as faculty and staff, and student-focused programming sets the tone for the institution's efforts as they relate to all of A Thriving Illinois' equity strategies. In fall 2023, the institution administered a campus-wide climate assessment instrument to understand the degree to which students feel safe, accepted, and valued. The goal is to provide a quantitative sense of how individuals feel about their campus experiences. This assessment will include students' perceptions of the quality of their interactions with peers, faculty members, and administrators, including their sense of the campus as a place where they belong and are treated with respect. The university is partnering with the Association of American Universities (AAU), external organizations, and peer institutions to ensure the survey instrument is state of the art, has questions that shed light on multiple axes of diversity, and generates data that can be shared and benchmarked against peer institutions to tease out challenges that are unique to the University of Illinois Urbana-Champaign campus as well as those that are common to peer universities. As of May 2024, the campus received preliminary reports from the survey. These reports and data are under review in the summer of 2024 with the expectation to deliver and socialize the data to campus stakeholders in fall, 2024. The campus has charged four working groups: assessment, faculty & staff, students, and communication to guide university administration with this initiative. The working groups are tasked with developing frameworks for effectively socializing the climate survey, results, and implementation plans to the campus; disseminating reports to the university community and academic and administrative units; and assessing opportunities for campus- and unit-level responses to the reports.

In keeping with the institutional framework led by the OVCDEI, the University of Illinois Urbana-Champaign is engaged with a number of efforts to strategically support and bolster equity on campus. For example, in July, 2020, the university pledged $2 million annually for the Chancellor's Call to Action to Address Racism and Social Injustice to focus the intellectual and scholarly talent of the university to examine two of the greatest challenges facing society and seek new solutions.

Over the first four years of the program:

• the Office of the Vice Chancellor for Diversity, Equity & Inclusion has received and reviewed 171 proposals and funded 59 projects.

• more than $4.3 million in research funding has been awarded.
• approximately 433 individuals have worked on funded research projects.
• as of April 2024, 30% of the PIs have used their Call to Action project to seek external funding, applying for more than $18 million to support further research.

The 59 projects were awarded to principal investigators from 14 campus units, 10 of which were academic. To date, the program has provided research experience for approximately 48 undergraduate and graduate students and engaged in the local community as co-project leaders or team members for their expertise.

In October 2022, OVCDEI hosted the inaugural Research Symposium, which included a keynote conversation with Dr. Ibram X. Kendi, Director of the Center for Antiracist Research at Boston University. The second Research Symposium featuring projects funded during 2023-24 was held on April 5, 2024.
Critical efforts on the campus surround activities related to closing the graduation gap and increasing student success. The university is an active participant in the American Talent Initiative, with Chancellor Robert Jones serving on ATI's steering committee. ATI is focused on expanding student access to high graduation-rate institutions, with the goal of enrolling and graduating 50,000 additional high-achieving, low-and moderate-income students from these institutions by the year 2025. The University of Illinois Urbana-Champaign has targeted the following goals: 1. increase the six-year graduation rate for Pell students to 81% for the 2017 entering cohort; 2. increase targeted opportunities for incoming students to participate in summer scholar/bridge programming in an attempt to increase the number of Pell students enrolling, improve retention rates, and reduce graduate rate gaps for this population.

Additionally, the university is a leader in the Association of Public and Land Grant Universities Powered by Publics (APLU PxP) initiative. The goals of APLU PxP are to produce several hundred thousand more degrees by 2025; to eliminate the achievement gap for low-income, minority, and first-generation students; and to expand access to higher education for students from all backgrounds. Since 2018, one hundred thirty (130) universities and state systems participate in 16 transformation "clusters." The university served as lead in the Big Ten Academic Alliance (BTAA) Cluster, which is studying retention and persistence starting with a focus on foundational course "DFW" rates to determine barriers faced by students pursuing degree advancement and align best practices to address those challenges. The group's work is outlined in this learning memo.

The university has begun to use these data to examine foundational course curriculum and determine additional supports needed for students in these courses. This has culminated in a project called the Inclusive Course Redesign Initiative (ICRI). ICRI began in Spring, 2023 focused on inviting faculty to consider course redesign with equity and inclusion at the core. Inclusive course redesign is a process of intentionally designing course materials and activities to be

more welcoming and accessible to all students, regardless of their backgrounds or abilities. By working in partnership with the Center for Innovation in Teaching and Learning (CITL), instructors can create more equitable learning environments that support the success of all learners. Inclusive course redesign can involve changes to course syllabi, assessments, classroom policies, and more. Each semester depending on availability of CITL partners, faculty are invited to participate by the Vice Provost for Undergraduate Education in consultation with the faculty member's home academic unit. In the Spring, 2023, Fall, 2023, and Spring, 2024 semesters, faculty who teach in larger, foundational courses which were identified as having gaps in final grade performance were prioritized for participation. Gaps refer to significantly higher percentages of students receiving a final grade of D or F or who withdrew from the course comparing URM students to White students and first-generation students to non-first-generation students. Additional courses will be selected for the 2024-2025 academic year.

Aligned with the goals of the ATI and APLU work is the campus' Student Success @ Illinois (SS@I) work. Known as the Student Success Initiative when it kicked off in 2019, goals are: 1. increase access (reduce cost of attendance, increase aid, consider time to degree); 2. eliminate equity gaps (increase retention and graduation rates for underrepresented and minoritized students); 3. improve the Illinois experience (abandon "sink or swim" mentality, identify and broaden campus programs, support services, and opportunities for engagement). Recognizing that Student Success is ongoing work, what was known as the "Student Success Initiative" became SS@I in 2023. A variety projects emerged from SS@I that have enabled the university to provide greater focus on recruitment and retention efforts. Some examples of key current efforts include:

• Student Success Symposia: The 3rd Annual Student Success Symposium in February 2024 drew more than 250 participants. As part of the Symposia, campus recognizes individuals and teams based on their contributions to Student Success @ Illinois with Student Success Champion Awards.

• Early Alert and Outreach: An advisory group has been meeting since 2022 to research and recommend appropriate early alert markers to connect students with relevant resources early in the semester. Starting with the Spring, 2023 semester, a select group of instructors engaged in a pilot effort to utilize Canvas Learning Management System data to detect early warning signs of academic issues. Information from the pilot paired with interviews with campus academic advisors will be used to help build an equitable, sustainable early alert system and to inform a communication campaign around the importance of class attendance and engagement.

Policies:
o Grounded in research showing institutional labeling of students in racially and culturally charged ways leads to disproportionality negative experiences for historically underrepresented

minority students, a SS@I Policy and Issues Group worked toward changing “probation language.” In 2024, the university approved revisions to this language. Effective starting in the Fall, 2024 semester, all academic standing codes at the university that used the word “probation” will be replaced with either “low GPA warning” or “college academic warning” depending on the code. Throughout 2024, this Policy and Issues Group has been examining college, departmental, and program websites to ensure consistency with the university’s revised language. Academic unit representatives are also tasked with evaluating practices in determining students’ academic status, messaging to these students, and programs available to support them.

o Led by the Director for General Education, a SSS@I Policy and Issues Group is currently studying access and outcomes for historically marginalized students in general education courses and requirement categories. Using student outcomes data to look at grade disparities by group and impact on time-to-degree, the Director and the Policy and Issues Group will make recommendations to the campus General Education Board and, where appropriate, to the Academic Senate, on appropriate revisions with the goal of more equitable outcomes.

o The Transfer Student Experience Task Force met throughout the 2022-2023 and 2023-2024 academic years, investigating the impact of certain university policies such as the residency requirement on transfer students. The Task Force authored a proposal to reduce this requirement from 60 to 45 credit hours with the intention of reducing time to degree completion for transfer students and better alignment with peer institutions. The proposal was approved by the Academic Senate in December, 2023 and will go into effect starting with the Fall, 2024 semester.

• Academic Advising: Cognizant that academic advisors are key to students’ retention and experience, SS@I is focusing on supporting the university’s advising community to advance efforts to create a sustainable and equitable advising experience for students and a professional advising community for academic advisors and those in advising adjacent roles. SS@I hosts the Advisor Series, a monthly professional development opportunity for advisors. In addition, a group with representation from academic advising and student support units across campus came together regularly to develop a landscape analysis survey followed by focus groups to collect feedback from the advising community. Among other findings, advisors indicated a need for coordinated resources. As a first step in this direction, the SS@I website is being redesigned to include a central location for many student, advising, and staff resources.

Finally, the university’s recruitment plan and programming aligns with A Thriving Illinois and with the Office of Undergraduate Admissions’ (OUA) statement on their Diversity Site. The university offers a number of outreach and recruitment programs geared toward historically underrepresented minority students (described in further detail in Appendix A) geared toward underrepresented populations. The University of Illinois Urbana-Champaign moved to test-optional, with ACT/SAT scores optional for all first-year applicants. Test scores are not required to be considered for merit-based or honors programs. OUA has dedicated teams to enhance

to be considered for merit-based or honors programs. OUA has dedicated teams to enhance the recruitment and enrollment of underrepresented groups; in 2024, these teams included a group on African American Recruitment and Yield, one on Native American Recruitment and Yield, and a third focused on Latinx Recruitment and Yield. The objective is to assemble stakeholders from campus sectors already engaged in impactful work with underrepresented populations, fostering ongoing dialogues and collaborations to devise innovative recruitment and enrollment strategies. In alignment with A Thriving Illinois Growth Strategy 8 to strengthen the statewide, coordinated transfer system to ensure students have seamless paths to build on previous academic learning and earn postsecondary credentials, the University of Illinois Urbana-Champaign has multiple transfer pathway programs. The Parkland Pathway program allows students to dual enroll at Parkland College and the University of Illinois Urbana-Champaign while living in university residence halls. There are also intensive advising partnerships with City Colleges of Chicago, Danville Area Community College, Illinois Central College, and Rock Valley College. In 2022, the campus implemented Public Act 102-0187, the Public University Uniform Admission Pilot, which guarantees transfer students admission to the university if they meet minimum requirements.

Department level plans: Access, progression, completion, and attainment

The Data Science core of the X + Data Science programs are designed from the ground up to be inclusive and equitable. The Department of Economics has worked closely with LAS Admissions to set program admission criteria that allow maximum access to this degree. In contrast with most programs in computer science, mathematics, or statistics, the Economics + Data Science BSLAS has few technical prerequisites and requirements for entry. There are no prerequisites for the first course in the data science core (an introduction to data science and the computer language Python) or for the first two courses in economics. Prerequisites for economics courses for continuing students in the program have been kept to a minimum, and all core economics classes are offered every summer to further increase access for students.

Progress in the degree will be monitored by the Department of Economics' team of highly trained, experienced professional academic advisors who are skilled in supporting student success. The advising team will assist students with course selection and schedule planning to ensure consistent progress toward degree and advisors will also assist students with monitoring their progress each semester. Advisors in the department engage in regular outreach to students, offering academic support in a variety of formats throughout the semester.

The Department of Economics has also created two academic support programs specifically for students in need of additional academic support. First, the Economics Academic Success Program provides an additional layer of student support, including additional advising, goal setting and coaching, and connection to department and campus resources. Students in this program begin with an in depth assessment about their academic skills which they discuss with

an advisor who can then assist them in goal setting, referring them to additional resources as needed. These students meet with their advisor on a regular basis for additional goal coaching and academic support from within and outside of the department as needed.

Second, in the fall of 2024, the department piloted two new courses designed to bridge academic gaps for less prepared students. Economics 199: Success in ECON 102 is a one-hour companion course to ECON 102 (Microeconomics Principles) designed to teach students skills necessary for success in the economics discipline such as interpreting charts and graphs, how to study for economics exams, and how to identify and apply economics concepts in the real world. Another similar course, ECON 199: Success in Intermediate Economics, is designed for students who have struggled in ECON 302 and need additional support to master those concepts. These courses will be taught a second time in the fall of 2025 and data is being gathered to determine whether the learning outcomes are met, but initial data suggest that they are helping students be more successful in economics coursework.

These student services, in addition to the Economics Learning Center and Economics Career Services, collectively provide a high level of academic support and encourage persistence to degree for a diverse population of students.

The Economics + Data Science BSLAS will provide marketable skills for a wider variety of students than we currently serve. This program will expand the number of graduates who will have access to in-demand data driven jobs, the median annual income of which was over $100,000 in 2021.

Describe program and institution-based high-impact practices and wrap-around student support services ensuring equitable access and success for students enrolled in the proposed program.

Institution-level high-impact and wraparound support services

Access 2030 demonstrates the University of Illinois' commitment to supporting "the ongoing learning renewal of students and systemic implementation of evidence-informed student support practices." This equity-focused plan includes emphasis on the three universities' summer bridge programs, proactive advising, and high-impact practices to support retention and to ensure equitable access and success.

In addition to Access 2030, the System supports students through the President's Research in Diversity Travel Assistance award. This competitive program, primarily for graduate students, has been established for the purpose of promoting diversity and the understanding of diversity within the University. Recipients are provided a certificate and funding up to $600 to travel to a professional conference related to diversity or identity (such as those conferences involving race, gender, ethnicity, sexual orientation, disability, and national origin) to present papers, posters, or creative work at conferences related to diversity or identity.

posters, or creative work at conferences related to diversity or identity.

At the institution level, the University of Illinois Urbana-Champaign prides itself on the array of high-impact practices and services offered to students. These student support practices support the ongoing learning renewal of students and systemic implementation of evidence-informed student practices, which align with Equity Strategy 1 of A Thriving Illinois. The Counseling Center, Office of the Dean of Students, McKinley Health Center, and Connie Frank CARE Center are accessible to all students via in-person or remote options to facilitate student wellness and retention. All students are encouraged to participate in workshops hosted by the university's Writer's Workshop and are eligible to receive assistance on writing projects through their writing assistants. For students with disabilities, Disability Resources & Educational Services (DRES) has helped thousands of students earn college degrees and Urbana-Champaign has been recognized as a national leader in the area of post-secondary education for persons with disabilities. Indeed, as the oldest post-secondary disability support program in the world, DRES has been associated with many programmatic innovations including:

• The seminal research which led to the development of the first architectural accessibility standards that would become the American National Standards Institute Standards;
• The first wheelchair-accessible fixed route bus system;
• The first accessible university residence halls;
• The first university service fraternity and advocacy group comprised of students with disabilities, Delta Sigma Omicron; and
The first university to receive the Barrier-Free America Award from the Paralyzed Veterans of America (2012).

Additionally, poised at the crossroads of academic and student affairs, the Michael L. Jeffries, Sr. Center for Access and Academic Support (formerly known as the Office of Minority Student Affairs) is one of the oldest and most comprehensive student support programs in the nation. The Jeffries Center has embodied the University of Illinois Urbana-Champaign's land-grant mission by championing access for all students and providing a comprehensive array of college preparatory and support services to bolster students' success since its inception. Programs such as A&M (Advising and Mentoring), First Generation Student Initiatives and Tutoring and Academic Services the Center also align with A Thriving Illinois Equity Strategy 8 with the use of staff as advisors/coaches as well as peer and near-peer tutoring. The Jeffries Center currently houses nine departments. A more comprehensive list of Jeffries Center programs is provided in Appendix B.

In 2022, the University of Illinois Urbana-Champaign was recognized as one of 53 institutions in the National Association of Student Affairs Professionals' (NASPA) First-Gen Forward 2022-2023 cohort. First-Gen Forward was the first program to acknowledge higher education institutions for their commitment to the success of first-generation students. As a NASPA First-Gen Forward institution, the university applied and was accepted into NASPA's First Scholars Network. This

institution, the university applied and was accepted into NASPA's First Scholars Network. This membership signifies the university's competency and commitment to the success of first-generation students. Through the network, the university receives tools, resources, and expert guidance, including data, peer networks, evidence-based approaches, and data-driven continuous improvement. The university established a First-Generation Steering Committee in January, 2023 to work with the Center for First-Generation Student Success to establish goals, identify barriers, and create improvement projects to enhance the experience of first-generation students on campus. In the 2023-2024 academic year, this Steering Committee launched their Insights Tool, which is a comprehensive diagnostic self-assessment in which members of the community share information about institutional efforts to support first-generation students. They also joined the Postsecondary Data Partnership, which provides insights into students' academic progress and outcomes across participating institutions. In the fall of 2023, the Jeffries Center hired the inaugural Director of First-Generation Student Initiatives to lead programming and service delivery to the undergraduate first-generation student community.

The Office of Student Affairs, particularly Student Success, Inclusion and Belonging (SSIB), supports numerous programs aimed at supporting diverse groups of students including working adults, students of color, and transfer and low-income students (just a sampling of which are provided in this document. SSIB houses the university's cultural and resource centers (see Appendix C) and a variety of high-impact programs; to name just three examples: 100 STRONG Program, I-Connect Diversity & Inclusion Workshops, and Housing Division Social Justice and Leadership Education. A more comprehensive list of programs is detailed in Appendix C and more specifically programming, support, and services geared toward African American students, Latino/a students. Veteran support is provided through the Chez Veterans Center out of our College of Applied Health Sciences, which includes individualized academic and career coaching to support progress and address barriers, peer and professional mentoring to foster community and networking, and health and wellness services to promote psychosocial adjustments and well-being.

The Career Center offers coaching and support students and connects them to opportunities, as they make career decisions and learns lifelong career management skills. They serve as leaders of the university's career services community. The Career Center in partnership with the Jeffries Center sponsors the FOCUS program, an intensive year-long program created to eliminate the gap in post-graduation outcomes and starting salaries between underrepresented, first-generation students and their peers. Its aim is to positively impact their career trajectory, earnings potential, and economic security for years to come. Through a series of workshops, this program provides transformative learning experiences for students in and out of the classroom. Those selected to participate receive a $1,000 scholarship over two semesters.

Finally, the university continues to develop and grow the Illinois Scholars Program (ISP). Designed to serve residents of the state of Illinois from historically underserved populations and low-sending counties, ISP guides undergraduate students' transition to the University of Illinois Urbana-Champaign by providing a wide range of educational, personal, social, and cultural opportunities. ISP aims to combine opportunity and access, experiential learning, and support to position students for academic success and personal growth throughout their time at Illinois. ISP begins with a four-week intensive summer bridge experience for incoming first-year students, and ISP continues to provide support and community for Illinois Scholars during their undergraduate years. Since the program's inception in 2018, 266 students have completed their summer bridge experience, with a 97.1% retention rate from their first to second term, compared to a 89% campus retention rate for underrepresented minority students during the same period. As of August 2024, 46 ISP students have graduated with their bachelor's degrees. During 2023, ISP hired a full-time Illinois Scholars Program Coordinator position and expanded the summer bridge participants from 25 students from two colleges to 69 students from nine colleges, with that number expected to grow to 150 students by 2026. Curricular modifications are underway to provide stronger academic support. Current academic support includes math, writing, and undergraduate research.

Department level high-impact and wraparound support services

At the department level, students in this program will be supported by an award-winning Economics Undergraduate Advising team comprised of experienced academic professionals as well as a fully dedicated career services staff specific to the Department of Economics. Our advisors connect students with academic support both at the department and campus levels to help them achieve academic success and progress towards degree completion. The advising team also coordinates an Economics Academic Success Program for students in need of another layer of academic support, which provides even more connection points through outreach, regular advising check-ins, goal setting and coaching, and referrals to appropriate department and campus resources.

The department also hosts an Economics Learning Center which provides academic support via walk-in tutoring for students in all core economics classes and related math, statistics, and computer science coursework. Conveniently located in the same place as TA office hours, in the same building as many ECON classes, and near the Economics Advising Office, the Economics Learning Center is very accessible to students throughout the academic year. The learning center is being renovated in the summer of 2025, with new carpeting, movable furniture to facilitate group work, upgraded electrical work to make use of technology, and upgraded lighting. The center will reopen in the fall of 2025 as the Raphael Kiam Economics Learning Center. These learning center upgrades reflect the department's prioritization of and commitment to the academic support of its undergraduate students.

Explain institutional strategies being implemented to increase and retain faculty, staff, and administrators of color and the implications for the proposed program. Explain how progress will be monitored.

Institution-level efforts to recruit and retain faculty, staff, and administrators of color
In addition, the Department of Economics offers specially designed Study Abroad programs for economics students that facilitate studying abroad without adding time to degree completion.
Aligned with Equity Strategy 3 (Implement equitable talent management to increase and retain faculty, staff, administrators, and trustees of color), the UI System and the University of Illinois Urbana-Champaign campus support efforts in this area, particularly in supporting underrepresented minority faculty. The Distinguished Faculty Recruitment Program has a stated goal of increasing underrepresented minority faculty. Since 2017, the System has committed $31.4 million to this program, the recruitment of tenured, star, or rising faculty from a range of disciplines who can transform our universities by their exceptional scholarship and teaching. One criterion is that the faculty member "will enhance diversity in the unit and in the college."
The Public Voices Fellowship is a year-long program open to tenured faculty to join a cohort of leaders, the majority of whom will be underrepresented (including women) and provide them with extraordinary support, leadership skills, and knowledge to ensure their ideas shape not only their fields, but also the greater public conversations of our age. The Leadership Initiative for Women Faculty brings together women faculty from across the UI System who are leaders and/or potential leaders to identify barriers to and facilitators for advancement of women.
Finally, the System will also be providing funding in support of each university's faculty recruitment plans which will also emphasize the recruitment of underrepresented minority faculty. The President's Executive Leadership Program is a professional development opportunity and experience for senior-level faculty and administrators from across the UI System. Consisting of seminars held during the academic year, the objective of the leadership program is to broaden participants' understanding of higher education issues and strengthen their skill sets in leading and managing a public institution at the university or system level. The Board of Trustees supports the program as a mechanism for identifying and developing a diverse group of potential future university and system leaders.

The Department hosts economics-related student clubs (some examples are the Economics Club, Women in Economics, and Economics Ambassadors) and Omega Delta Epsilon honor society as well as opportunities for undergraduate research including in our Econometrics Data Lab. In addition, professional development programming such as career fair preparation, internship panels, an etiquette dinner, and networking opportunities are provided by Economics Career Services staff throughout the academic year. A newly added alumni coordinator will facilitate even more opportunities for undergraduates to connect with economics alumni.
Economics students also have access to a wide variety of institutional level and college level services such as LAS Career Services, the Illinois Math and Statistics Student Support Center, the Writers Workshop, the Counseling Center, campus cultural centers (such as the Bruce D. Nesbitt African American Cultural Center and La Casa Cultural Latina), and many other institutional level programs that support student success.
Collectively these programs and services support academic progress, increase student support and belonging, and encourage persistence through degree completion.

As a campus, the University of Illinois Urbana-Champaign is committed to investing in strategic hiring of faculty to maintain our academic strengths, respond to student demand, and capture opportunities. Investments from the Office of the Provost in faculty hiring, retention, and development are critical to maintaining and enhancing the academic excellence of our campus, especially at a time when the competition for top talent is intense. The Next 150 strategic plan identified a major hiring initiative to expand faculty hiring in key areas over the next five years, with the goal of expanding the overall size of the faculty. While the COVID-19 pandemic slowed that initiative, the University remains committed to hiring with the goals of enhancing faculty diversity and meeting student demand.

Though all faculty hiring is a department and college-level decision, the campus has devoted significant resources to incentivize hiring activities that support diversity, recruitment, and retention goals. Prominent among those programs are the Targets of Opportunity Program (TOP) and the Dual Career Program (DCP). The TOP program provides recurring funds for salary support for hires that enhance campus diversity, including faculty from underrepresented

groups and women in STEM fields. Nearly all of these hires are identified through a traditional search process. The Provost invests ~$1 million per year in this recurring salary support for TOP. The Office of the Provost, in conjunction with the Office of the Vice Chancellor for Diversity, Equity, and Inclusion also announced a second year extension of the temporary modification to the TOP program to recruit more faculty of color. This initiative made an additional ~$1 million available to units to support hiring in this area. For the DCP, the Provost provides recurring matching funds (i.e., 1/3 of the initial salary) if the partner is hired into a tenure track position through the DCP. Several years ago, the Provost modified the DCP to provide only non-recurring funding (1-3 years) for non-tenure track partner hires which has helped to reduce the overall cost of the program. Thanks to DCP, the university was ranked second in the nation in the most recent Partner Hire Scorecard.

The campus also continues to fund postdoctoral fellowships targeted to underrepresented scholars in ethnic studies programs (e.g., Latina/Latino Studies, American Indian Studies, etc.) and through the DRIVE program. These programs are intended to help provide postdocs with an opportunity to build a foundation of scholarship that will prepare them for tenure track positions. While the ethnic studies postdocs are selected through a specific advertisement, the DRIVE program identifies candidates through a search process for open faculty positions.

Finally, through a partnership with the University System Office and departments, the Provost's Office also supports the Underrepresented Faculty Recruitment Program in making available non-recurring funds for research to enhance offers of employment. Awards up to $20,000 per year for each of the first three years of employment are available for those hired in the 2022-2023 academic year. The Provost's Office funds the additional search expenses incurred by bringing an additional candidate to campus if that person is from an underrepresented group.

Sustainability

Additional retention efforts include programming and development activities for executive officers and faculty members across ranks. Programming and resources for unit executive officers (EOs) equip them with the knowledge and skills necessary for leadership including ways to enhance their ability to support and mentor faculty within their units, particularly faculty members of color. The Office of the Provost also coordinates several leadership development programs to increase the pool of potential academic leaders on campus with intentional focus on supporting faculty members from underrepresented groups to explore campus leadership and administrative roles. The university continues to be a strong partner in the Big Ten Academic Alliance's Academic Leadership Development Programs, with numerous faculty and staff from the university participating as fellows.

The Office of the Provost also invests in faculty development. From recruitment to onboarding, through promotion, and retirement, faculty members have access to programming and resources designed to meet them and address their careers needs. The office also supports

Describe strategies and initiatives the institution plans to implement that makes the proposed program and college more generally affordable for students and their families, including those who have been historically underserved.

several institutional memberships that provide external resources to our faculty, such as the National Center for Faculty Development and Diversity to ensure faculty members' continued access to NCFDD's resources.

Institution-level affordability plans

To monitor progress of campus efforts to recruit and retain faculty members of color, the Provost's office collects, manages, and reports annual data through the Division of Management Information and Office for Access and Equity. Additionally, a yearly report on hiring and retention of faculty on campus is produced that includes women and faculty of color through the Faculty at Illinois report.

The University of Illinois and the University of Illinois System have been committed to implementing strategies to make college "more affordable, particularly those who have been historically underserved." The following initiatives have been implemented and promising outcomes have already been realized. The President's Award Program (PAP) and PAP Honors provide financial support for students admitted to one of the UI Systems three institutions from historically underrepresented groups. The PAP awards range from $5,000 per year available for to $10,000 per year for four years. The University participates in the State of Illinois AIM HIGH Grant program, which provides merit-based financial assistance to students who qualify based on state eligibility requirements.

Aligned with A Thriving Illinois' Equity Strategy 5 and Growth Strategy 4 to encourage high school graduates to enroll in our higher education system and keep talent in Illinois, the University of Illinois adopted the Common App.

Recognizing the barrier that affordability creates to higher education, the University of Illinois Urbana-Champaign has taken action to increase the portfolio of financial support for students. The university annually provides over $519 million in financial aid funding to undergraduate students, with 72% of students receiving some type of aid. Nearly $203 million of that funding comes from institutional sources, with the vast majority provided to Illinois residents as need-based grants and scholarships. The university has two signature financial aid programs. Began in 2005, the Illinois Promise program covers tuition, campus fees, room/board, and books/ supplies through a combination of federal, state, and institutional grants and a $2,500 Federal Work-Study award to Illinois residents whose family income is at or below the federal poverty level. In 2019, the Illinois Commitment program began and provides a combination of federal, state, and institutional grants to cover tuition and campus fees for Illinois residents whose family income is $67,100 or less. Approximately 25% of Illinois residents attending the university receive funding through either the Illinois Promise or Illinois Commitment programs. Of the 2022-2023 cohort of Illinois Commitment recipients, 36% identify as Hispanic, 29% as White, 18% as Black/African American, 14% as Asian, and 3% identify as two or more races. The Chancellor's Access Grant doubled from $2,500 to $5,000 for the 2022-2023 academic year. This grant further assists Illinois residents from historically underrepresented groups and allows students to stack this award with other institutional awards.

Department-level affordability plans

The Department of Economics has made increasing the representation of faculty of color a primary value of its recruiting activities at all levels. The Department recently created a Diversity, Equity, and Inclusion committee that has been implementing programming to help create a climate of belonging, respect, and understanding for faculty, staff, and students. Recent recruitment cycles have yielded very successful and diverse results at both junior and senior faculty levels.

Department efforts to recruit and retain faculty, staff, and administrators of color

The Department of Economics will utilize multiple strategies and initiatives to complement campus-level financial support for students and families. The department offers numerous student awards and scholarships intended to financially support students and make their college experience more affordable. Scholarships for undergraduates include the Michael and Christine Kolbuk Undergraduate Scholarship, the Shebik Centennial Economics Scholarship, the Robert L. and Amelia Louise Rivers Scholarship, and the Susan Silver and Ross Erlebacher Economics Scholarship.

In addition, the Economics + Data Science BSLAS will set aside funding from tuition generated to create additional scholarships. Those scholarships will be utilized to support persistence to degree for underrepresented students in the economics discipline. These scholarships will complement the campus and college level programs such as Illinois Promise, Illinois Commitment, President's Award Program, and others described herein.

The Department of Economics offers free proficiency exams for our two introductory courses to allow students with previous economics knowledge the opportunity to earn up to six hours of course credit for free. We also offer many of our undergraduate courses online during the summer and winter terms to facilitate students' progress toward degree while they may be off campus for jobs and internships, which often results in tuition savings.

Instructors in many of our courses, sensitive to the financial impact of textbook costs on students, have eliminated textbooks, switched to free open-source textbooks, or collaborated on course design so that the same textbook can be used for multiple courses. This results in significant textbook cost savings for students as they progress through the economics course sequence.

Provide tuition cost analysis for comparable programs and institutions in Illinois.

The Department of Economics is requesting tuition at the Economics Rate as we have for our other existing undergraduate programs (Economics BALAS and Econometrics & Quantitative Economics BSLAS). For students entering in Fall 2025, the Economics Resident Rate for tuition for the academic year is $15,586, for Nonresidents the rate is $35,938, and the International Rate is $38,466. These rates are guaranteed not to rise for students for four years.

The only directly comparable program in Illinois is Illinois Institute of Technology's Bachelor of Science in Economics and Data Science. Tuition for students entering that program in Fall 2025 is published as $51,648 with fees of $1,750 for a total of $53,398.

The cost savings for Illinois residents to attend University of Illinois Urbana-Champaign's program would be $37,812 per year or $151,248 less over four years. This is a very significant financial savings for Illinois residents to attend the University of Illinois Urbana-Champaign.

The cost difference is less for international students, who would pay $14,932 less per year to attend University of Illinois Urbana-Champaign, or a total of $59,728 less over four years. This is still a significant cost savings, especially for a student just starting their career or taking on additional loans to pursue graduate school.

LAS plans to seek a new differential tuition for all LAS X+DS majors; if this differential tuition is proposed and approved, the Department of Economics will seek this differential tuition for the Economics + Data Science Program.

Growth

Provide a supply and demand analysis for the proposed program that, at minimum, does the following: a) Provides evidence of student interest in the proposed program including any strategies to incentivize students to stay in Illinois. b) Identifies and provides evidence of a high-quality credential with viability for future careers.

Student demand is strong for existing data science and related programs. Enrollment in the undergraduate majors of “Statistics” and “Statistics + Computer Science,” which provide students access to some of the competencies of data science, have grown by a factor of six in the last ten years. Enrollment in the existing X + DS majors is strong and growing. Data from the Division of Management Information show that 735 students were already enrolled in the existing X + DS majors in the fall of 2024 (https://dmi.illinois.edu/stuenr/class/enrfa24.htm). In addition, several additional X + DS majors are in the process of being developed to meet the demand.

The Computer Science + Economics BSLAS, which was established in 2018, has also seen comparable growth. The Computer Science + Economics BSLAS has grown from 28 students in the Fall of 2019 to 137 students in Fall 2021 and by its fifth academic year (Fall 2024), 215 students were in this major. The popularity of this program and student interest in it are strong, but completion of prerequisites and access to the major due to demand are both factors that limit student enrollment. The Economics + Data Science BSLAS will provide an appealing alternative while being more accessible to a wider variety of students.

The X + Data Science degree programs are an innovative approach to providing students with a high quality credential for viable future careers. The Bureau of Labor Statistics projects that employment for data scientists will grow by 36% from 2023-2033, compared to an average growth rate of 4% for all jobs. (https://www.bls.gov/ooh/math/data-scientists.htm). From 2022 to 2023, 73,100 data scientist jobs were added. The median annual wage for data scientists was $108,020 in May 2023. Accordingly, we expect graduates from this proposed degree program to enter a strong job market with a very sought-after skillset, incentivizing them to stay in Illinois.

In addition, graduates of the Economics + Data Science BSLAS will be well prepared for other in-demand jobs across a variety of sectors including finance/banking, healthcare, education, and government. Current job descriptions for positions relevant to this degree demonstrate the demand for the skill set for which this degree is designed. Examples include preferences for "capacity to manipulate, organize, and analyze large amounts of data," "demonstrated skills with analytical thinking and quantitative methods," "statistical coding experience in R," and "experience with data mining tools". All of these skills would be demonstrated by graduates of the Economics + Data Science BSLAS, making them strong candidates for a wide variety of job opportunities across the state of Illinois.

Explain how the program engaged with business and industry in its development and how it will spur the state's economy by leveraging partnerships with local, regional, and state industry, business leaders and employers.

Economics Career Services has strong relationships with alumni, many of whom remain in the state of Illinois working in a variety of sectors. The Department of Economics recently hired an additional career staff member who will also be specifically developing alumni relationships, which will further connect the department with our alumni and their industries. Economics Career Services brings in national and regional recruiters to meet with students throughout the year, especially through the course ECON 198, Careers in Economics, which prepares and supports students in the department as they enter job markets.

The Department of Economics collaborates with LAS Career Services and campus level career services through events such as the LAS + ACES Career Fair, Research Park Career Fair, and the Career Services Council. In addition to these opportunities, Economics has strong relationships with local employers, who hold events throughout the year to connect students and alumni with professional opportunities.

Economics has also recently opened the Econometrics Data Lab which will partner with businesses in order to provide data analysis directly to clients. The Econometrics Data Lab, staffed by a full-time clinical professor, will leverage existing relationships and create new partnerships to maximize benefit to local, regional, and state industry, while providing students with practical skills and professional connections. The Econometrics Data Lab is expected to grow as it scales up and reaches more businesses to serve as clients.

Describe how the proposed program will expand access and opportunities for students through high-impact practices including research opportunities, internships, apprenticeships, career pathways, and other field experiences.

At the college and campus levels, students in the program will have the opportunity to engage with campus level programs such as the Office of Undergraduate Research and the Career Center to connect with research, internship, apprenticeship, and other experiences. College of LAS resources such as LAS Career Services and the LAS Career Fair are also available.

At the department level, students in this program can participate in a newly developed Econometrics Data Lab. The for-credit Data Lab experience will take students through the process of providing economic analyses of real-world problems. Some of this work will originate from clients in business and government that are seeking data analysis. Students will receive course credit for collaborating with economics faculty on research through our independent study option. Students can also participate in other research opportunities with campus programs through the Undergraduate Research office. Students in the Economics + Data Science BSLAS are required to participate in a capstone experience, which can consist of a study abroad program, the Econometrics Data Lab, or an undergraduate research experience.

Career pathways will be explored for this degree in the course ECON 198, Careers in Economics, which offers professional training and support to help students utilize their skills and educational experiences to best position themselves for internship and post-graduate job opportunities. Students who obtain internships can also participate in a department course ECON 298: Professional Internship that supports their experience, develops professional skills, and provides students with course credit.

Multiple opportunities are provided each academic year outside of the classroom for Economics students to meet with recruiters and alumni, engage in professional development (such as through the annual professional etiquette dinner), and develop interviewing and job search skills (such as through our mock interview program and resume review service). Advising and support for applying to graduate schools is also provided, as approximately 28 percent of our bachelor’s degree students will go on to graduate school in a variety of disciplines such as business, law, computer science, and education.

Explain how the proposed program will expand its models of teaching and learning, research, and/or public service and outreach that provide opportunity for students to succeed in the work of the future.

The Department of Economics will leverage existing campus, College of LAS, and departmental resources and opportunities that prepare students for success in the workforce across a variety of sectors. In addition, this program specifically integrates a research experience (ECON 397) which will connect students meaningfully with faculty while teaching them the applied skill sets of an economist as well as a data scientist. These high quality and high engagement activities will provide realistic, practical skills while supporting students in their preparation for jobs and internships.

Beyond workforce need, describe how the program broadly addresses societal needs (e.g., cultural or liberal arts contribution, lifelong learning of Illinois residents, or civic participation).

Data literacy is a critical skill for citizens to engage with society. The societal need for objective, data-driven decision making has never been more imperative. Data scientists and other professionals with data skills are poised to contribute to advancement in all areas. The combination of studying data science and studying the liberal arts will produce well-rounded thinkers capable of solving broad societal problems. The liberal arts subject of economics is applicable to virtually all aspects of our society. As such, the Economics + Data Science BSLAS imparts skills that can be applied in areas as diverse and crucial as the environment, healthcare, inequality, community development, and politics. The interdisciplinary liberal arts perspectives combined with the critical thinking skills and the applied data analysis skills developed by this degree will produce Illinois resident alumni who are empowered to participate in civic life and make change in their respective fields.

A Thriving Illinois:
Higher Education
Paths to Equity,
Sustainability, and
Growth - Attach
Documents

Program Description and Requirements

Illinois Administrative Code:

1050.30(b)(1) A) The caliber and content to the curriculum assure that the objectives of the unit of instruction will be achieved; B) The breadth and depth of the curriculum are consistent with what the title of the unit of instruction implies; C) The admission and graduation requirements for the unit of instruction are consistent with the stated objectives of the unit of instruction.

1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of

time.

1050.50 (a)(2)(C) Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.

Program Description

Provide a description of the proposed program and its curriculum, including a list of the required core courses and short ("catalog") descriptions of each one. (This list should identify all courses newly developed for the program).

Provide Program Description here:

The Economics + Data Science BSLAS degree plan simultaneously incorporates a strong foundation in data science and economics, including a research or discovery experience as part of the degree.

This in-person degree program has three different components:
1. The data science core coursework (30-31 hours) comprised of:
Two (2) courses from Statistics (STAT 107, STAT 207)
Two (2) courses from Computer Science (CS 277, CS 307)
Two (2) courses from Information Sciences (IS 467, IS 477)
Two (2) courses from Mathematics (MATH 220 or MATH 221 and MATH 227 or 257)
One (1) Orientation and Professional Development course

2. Economics coursework (33 hours)

3. A research, co-op, or capstone experience via ECON 397 (3 hours), wherein the student integrates data science and economics.

Examples of possible experiences may include:
--An undergraduate research experience under the direction of Illinois faculty or in the Econometrics Data Lab.
--A semester study abroad with one or more courses focused on discovery while attending the international institution.
--A multi-semester capstone experience within the student's area of specialization.
--A semester co-op experience outside Champaign-Urbana focused on a subject within the student's area of specialization.
--A summer research program focused within a student's area of specialization.

Attach Program Description Files if needed	Required Courses List revised.docx

Graduation Requirements

Provide a brief narrative description of all graduation requirements, including, but not limited to, credit hour requirements, and, where relevant, requirements for internship, practicum, or clinical. For a graduate program, summarize information about the requirements for completion of the thesis or dissertation, including the thesis committees, and the final defense of the thesis or dissertation. If a thesis or dissertation is not required in a graduate program, explain how the functional equivalent is achieved.

A total of 120 credit hours, including general education requirements, the university residency requirement of 45 hours of Illinois coursework (of which 21 hours are 300 or 400 level courses).

General education: Students must complete the Campus General Education requirements including the campus general education language requirement.

Orientation and Professional Development: (1-3 hours)
-LAS 101 or LAS 100 & LAS 101 or LAS 102

CORE ECONOMICS + DATA SCIENCE BSLAS COURSEWORK:

ECONOMICS CORE: (33 hours)
-Introduction to Micro and Macro Economics: ECON 102, ECON 103 (6 hours)
-Economics Statistics I and II: ECON 202, ECON 203 (6 hours)
-Intermediate Microeconomic Theory: ECON 302 (3 hours)
-Introduction to Applied Econometrics: ECON 471 (3 hours)
-Advanced Economics Coursework in consultation with an academic advisor: (12 hours)
-Calculus II: MATH 231 (3 hours)

DATA SCIENCE CORE: (32-33 hours)
Mathematical Foundations: (7-8 hours)
-Calculus: One of MATH 220 or MATH 221 (4-5 hours)
-Linear Algebra: One of MATH 227, MATH 257 (3 hours)

Data Science Fundamentals: (12 hours)
-Data Science Discovery: STAT/CS/IS 107 (4 hours)
-Data Science Exploration: STAT 207 (4 hours)
-Modeling and Learning in Data Science: CS 307 (4 hours)

Computation Fundamentals: 4 hours
-Algorithms and Data Structures for Data Science: CS 277 (4 hours)

Social Impact in Data Science: 6 hours
-Ethics and Policy for Data Science: IS 467 (3 hours)
-Data Management, Curation, and Reproducibility: IS 477 (3 hours)

Research or Discovery Experience: 3 hours
One of the most important skills a student will gain in an Economics + Data Science BSLAS will be the ability to present economic data in meaningful ways. A research or discovery experience is as much as pillar of this degree program as both the data science core coursework (Part 1) and the coursework in Economics (Part 2).

Option 1:
Senior Research I: ECON 397 (3 hours)
Students in this class will spend a semester applying economic data to real world issues in the Econometrics Data Lab.

Option 2:
Participation in a Department of Economics approved study abroad program in which at least three hours of advanced courses in economics and data science are the focus. All courses will be selected and preapproved under the supervision of an Economics Academic Advisor and will be pre-articulated.

This experience should be developed with a faculty member before the end of a student's sophomore year and result in the creation of one or more artifacts documenting the experience. A minimum of 3 credit hours must be specifically designated to the preparation and the completion of the experience component.

Examples of possible experiences may include:

--A semester study abroad with at one or more courses focused on discovery while attending the international institution.
--A multi-semester capstone experience within the student's area of specialization.
--A semester co-op experience outside Champaign-Urbana focused on a subject within the student's area of specialization.
--An undergraduate research experience under the direction of Illinois faculty or in the Econometrics Data Lab.
--A summer research program focused within a student's area of specialization.

TOTAL HOURS: 65-66

Plan to Evaluate and Improve the Program

Describe the program's evaluation plan.

The Undergraduate Faculty Director, working with the Director of Undergraduate Studies, will evaluate the degree utilizing the learning objectives for our Economics + Data Science BSLAS students. Student progress will be monitored and data will be utilized to make any necessary changes to support student persistence to degree. The research experience is assessed by faculty via the final project which is required for the major. Student engagement in integrative learning activities such as the Econometrics Data Lab and independent studies will be presented by students at the Economics Undergraduate Research Symposium. This will also be monitored and assessed by faculty and by the Undergraduate Faculty Director. In addition, employer data is consistently obtained and assessed by Economics Career Services as well as via the Illini Success Survey, through which job placement data is collected by major. These data sources will provide an opportunity for regular evaluation of the integration of data science and economics, allowing for systematic audits of the program overall.

Plan to Evaluate
and Improve the
Program
Attachments

Budget Narrative

Fiscal and Personnel Resources

Illinois Administrative Code: 1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based on supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.

Budget Rationale

Provide financial data that document the university's capacity to implement and sustain the proposed program and describe the program's sources of funding.

Is the unit's (Department, College, School) current budget adequate to support the program when fully implemented? If new resources are to be provided to the unit to support the program, what will be the source(s) of these funds? Is the program requesting new state funds? (During recent years, no new funds have been available from the state (IBHE) to support new degree programs).

The Department of Economics' current budget is adequate to support the program when fully implemented. No new funding will be requested to support this program.

Faculty Resources

Will current faculty be adequate to provide instruction for the new program or will additional faculty need to be hired? If additional hires will be made, please elaborate.

Current faculty resources will be sufficient to support this program. No new courses are being created for this major. Course capacity exists to accommodate the increased demand, and no additional faculty will be required. Infrastructure already exists via existing department resources and via other units involved in the X + DS programs to support students in this major.

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

It is expected that some students declaring this major would have otherwise declared an Economics major, and therefore overall growth of the department is predicted to be modest to moderate based on this degree option. Given current faculty and course capacities, the modest increase per class size is not expected to significantly change student-faculty ratios in the department.

Describe how the unit will support student advising, including job placement and/or admission to advanced studies. Will current staff be adequate to implement and maintain the new program or will additional staff be hired? Will current advising staff be adequate to provide student support and advisement, including job placement and or admission to advanced studies? If additional hires will be made, please elaborate.

Current staffing levels are sufficient to accommodate the modest to moderate increase expected by this program. The Department of Economics has extensive student support infrastructure in place, including a learning center, a student academic success program for students needing additional academic support, a robust and experienced professional advising team, student ambassadors, multiple student organizations, an economics honor society, and an undergraduate research symposium.
Students will have the opportunity to take a career-oriented course (ECON 198) teaching valuable professional skills, as well as constant access to a dedicated Economics Career Services team, in addition to the College of Liberal Arts & Sciences Career Services plus a campus-wide Career Center. All of those resources will assist students with job placement or admission to graduate programs.

Are the unit’s current facilities adequate to support the program when fully implemented? Will there need to be facility renovation or new construction to house the program?

Current facilities are adequate to support the program when fully implemented. The Department of Economics main office (including the Undergraduate office) is housed in David Kinley Hall (1407 W Gregory Drive, Urbana IL 61801). Many Economics courses are held in this building, and the Economics Learning Center and Economics Career Services offices are also located in the building. No renovation or construction is expected as a result of this program.

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.

The Department of Economics is supported by the Social Sciences, Health, and Education (SSHEL) Library, a unit of the University Library.

The Director of Undergraduate Studies in Economics met with the Economics librarian, Mandi Arlain, and after discussing the program in detail it was agreed that existing library collections, resources, and services such as the Economics LibGuide are sufficient to support this program. All courses in this degree are already offered on this campus and the program is expected to only produce a modest increase in overall student enrollment. This further supports the conclusion that existing library resources are sufficient to support this degree.

Summarize information about library resources for the program, including a list of key textbooks, a list of key text and electronic journals that will support this program, and a short summary of general library resources of the University that will be used by the program's faculty, students, and staff.

The Social Sciences, Health, and Education Library provides extensive print and electronic resources related to the discipline of economics for both students and faculty. Any resources not held by this library can be requested through inter-library loan or from partner institutions.

Key textbooks that will support this program include:

Pindyck and Rubinfeld, Microeconomics, 9th e. Pearson (2017). ISBN:0134184246

Chiang, Macroeconomics: Principles for a Changing World, 6th e. Macmillan (2023). ISBN-13:9781319421274

Holmes, Illowsky, Dean, and Hadley, Introductory Business Statistics, 4e. Openstax (2018). ISBN-13: 9781947172470

Atack and Passell, A New Economic View of American History, 2nd e. W.W.Norton (1994). ISBN-13: 978-0393963151

Wooldridge, Jeffrey M, Introductory Econometrics: A Modern Approach, 7th e. Cengage (2019). ISBN-13: 978-1337558860

Other periodicals that may be used in this program include:

The Economist, ISSN 0013-0613

Journal of Economic Perspectives, ISSN 1944-7965

The American Economic Review, ISSN 0002-8282

These resources are already available through the library.

Are any sources of funding temporary (e.g., grant funding)? If so, how will the program be sustained once these funds are exhausted?

No sources of funding are temporary. The program will be sustained through tuition collected and through other existing institutional and college level funding consistent with the other majors offered in this department.

Budget Narrative
Fiscal and Personnel Resources Attachments

Personnel Budget

Category Year One Year Five Notes

Faculty (FTE)

Faculty FTE Year1	Faculty FTE Year 5	Faculty FTE Notes
0	0	0

Faculty ($)

Faculty Year 1	Faculty Year 5	Faculty Notes
0	0	0

Advising Staff ($)

Advising Staff Year 1	Advising Staff Year 5	Advising Staff Notes
0	0	0

Graduate Students ($)

Graduate Students Year 1	Graduate Students Year 5	Graduate Students Notes
0	0	0

Other Personnel Costs

Other Personnel Costs Year 1	Other Personnel Costs Year 5	Other Personnel Costs Notes
0	0	0

Budget Narrative Attachments

Facilities and Equipment

Illinois Administrative Code: 1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g., laboratory supplies and equipment, instructional materials, computational equipment) necessary to support high quality academic work in the unit of instruction, research or public service are available and maintained;

B) Clinical sites necessary to meet the objectives of the unit of instruction, research or public service;

C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research and public service, are conveniently available and accessible, and can be maintained.

Describe the facilities and equipment that are available, or that will be available, to develop and maintain high quality in this program. Summarize information about buildings, classrooms, office space, laboratories and equipment, and other instructional technologies for the program.

David Kinley Hall (1407 W Gregory Drive, Urbana IL 61801), built in 1926, is the home to the Department of Economics and the Department of Political Science. The building houses 24 classrooms which accommodate 35 to 281 students each. Offices of Economics staff and faculty are housed here. The Economics Undergraduate Office is conveniently located in Room 214, where students can find both academic advising and career services. The Economics Learning Center and Teaching Assistant space is located in Room 14 of David Kinley Hall and is easily accessed by all students. The recently opened Econometrics Data Lab is also located on the first floor and provides another opportunity for undergraduate and graduate students to collaborate.

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

No

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

No

Are there other costs associated with implementing the program?

No

Facilities and Equipment Attachments

Faculty and Staff

Illinois Administrative Code: 1050.30(a)(3): A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met; B) The academic preparation and experience of faculty and staff, as evidenced by level of degrees held, professional experience in the field of study and demonstrated knowledge of the field, ensure that they are able to fulfill their academic responsibilities; C) The involvement of faculty in the unit of instruction, research or public service is sufficient to cover the various fields of knowledge encompassed by the unit, to sustain scholarship appropriate to the unit, and to assure curricular continuity and consistency in student evaluation; D) Support personnel, including but not limited to counselors, administrators, clinical supervisors, and technical staff, which are directly

assigned to the unit of instruction, research or public service, have the educational background and experience necessary to carry out their assigned responsibilities.

Describe the personnel resources available to develop and maintain a high quality program, including faculty (full- and part-time, current and new), staff (full- and part-time, current and new), and the administrative structure that will be in place to oversee the program. Also include a description of faculty qualifications, the faculty evaluation and reward structure, and student support services that will be provided by faculty and staff.

Current staffing of the Department of Economics is sufficient to support existing high-quality programs as well as the additional Economics + Data Science BSLAS students.

Administrative Staff. The Department of Economics employs fifteen full-time staff members in its administration as well as five faculty members with administrative appointments.
The Undergraduate Team is comprised of three full-time advisors, one part-time advisor, a Director of Undergraduate Studies, and a Faculty Director of Undergraduate Programs, in addition to a full time Office Support Associate.
The Masters of Policy Economics program employs three full-time staff members and two faculty members with administrative appointments as Director of the MSPE Program and Associate Director of the MSPE Program, respectively.
The PhD program employs one full-time Office Administrator and one Faculty Director of the PhD Program.

Faculty. The Department of Economics currently employs twenty-eight tenured or tenure-track professors as well as eight non-tenure track teaching faculty. In addition, the Department hosts seventeen affiliated faculty with joint appointments.

Summarize the major accomplishments of each key faculty member, including research/scholarship, publications, grant awards, honors and awards, etc. Include an abbreviated curriculum vitae or a short description.

Faculty in the Department of Economics are actively engaged in research, publishing in a variety of media and serving as experts on wide-ranging topics. Please see the attached list of faculty along with their profiles and CVs for additional information on their scholarships, grants, and accomplishments.

Faculty and Staff
Attachments
Key Faculty Sheet.docx

HLC Section

Credit Hours

Existing or repackaged curricula (Courses from existing inventory of courses): 97.5	Number of Credit Hours:	117 Percent of Total:
Revised or redesigned curricula (Courses for which content has been revised for the new program):	Number of Credit Hours: 2.5	3 Percent of Total:
New curricula (Courses developed for the new program that have never been offered): 0	Number of Credit Hours:	0 Percent of Total:
Total Credit Hours of the Program:	Number of Credit Hours:	120 Percent of Total:

100

New Faculty Required

Will new faculty expertise or new faculty members be needed to launch this program?

No

Please explain
existing coverage:

Existing faculty coverage will be sufficient to support the new program. The Department of Economics currently employs twenty-eight tenured or tenure-track professors, eight non-tenure track teaching faculty, and seventeen affiliated faculty with joint appointments.

Additional Funds

Will the proposed program require a large outlay of additional funds by the institution?

No

Institutional Funding

Please explain institutional funding for proposed program:

The program will be supported by existing funding as well as tuition which will be charged at the Economics rate.

EP Documentation

EP Control Number EP.26.139

Attach Rollback/ Approval Notices	ep26139_attachment_approval letter template for X+DS proposals_20260322.pdf

Non-EP Documentation

U Program Review Comments	
Rollback Documentation and Attachment	

DMI Documentation

Attach Final Approval Notices	U Program Review Comments KEY 1180 Economics + Data Science, BSLAS 10_9_2024.docx
Banner/Codebook Name	

Program Code:

Minor Code	Conc Code	Degree Code	Major Code

Senate Approval Date	
Senate Conference Approval Date	
BOT Approval Date	
IBHE Approval Date	
HLC Approval Date	
DOE Approval Date	
Effective Date:	

Program Reviewer Comments

Brooke Newell (bsnewell) (10/13/23 10:30 am): Rollback: Email sent to Jamie, Stephen and Andrea

Brooke Newell (bsnewell) (03/26/24 12:20 pm): Rollback: Email sent to Jamie, George,

Stephen and Andrea

Brooke Newell (bsnewell) (07/23/24 7:55 am): Rollback: Email sent to Jamie, Stephen, and George

Brooke Newell (bsnewell) (10/09/24 8:49 am): U Program Review Comments are attached in the DMI Documentation section

Stephen Downie (sdownie) (01/07/25 3:34 pm): Rollback: Explanatory e-mail sent to J. Thomas-Ward and G. Deltas on 01/07/25.

Melissa Steinkoenig (menewell) (07/17/25 1:45 pm): Gen Ed Table good

Key: 1180