This form is updated periodically. Please be sure you are using the **latest** version of this form, which may be downloaded from:

<https://www.usg.edu/assets/strategic_academic_initiatives/committee_docs/documents/InstitutionalCourseProposalForm.docx>

**Core Curriculum Course Proposal Form – Areas A – E**

**Proposing institutions and reviewing bodies should review the following before completing their sections of this form.**

Requests for courses to be added to Areas A-E:

* Is the course at the collegiate level?
* Is the course broadly focused?
* Is the discipline of the course appropriately specified?
* Does the numbering of the course reflect the appropriate level (freshman, sophomore . . .)?
* Do the course prefix, numbering, title, and description conform with the USG list of Common Course Prefixes, Numbers, Titles, and Descriptions? Academic and Student Affairs Handbook, Section 2.4.10 (<https://www.usg.edu/academic_affairs_handbook/section2/handbook/C738/#p2.4.10_common_course_prefixes_numbers_and_descriptions>)

Rules for inclusion in Areas A-E:

* See the Academic and Student Affairs Handbook, Section 2.4.4 Details Regarding Areas A-F (<https://www.usg.edu/academic_affairs_handbook/section2/handbook/C738/#p2.4.4_details_regarding_areas_af>)
* See the Academic and Student Affairs Handbook, Section 2.4.5 Rules Regarding Inclusion in Areas A-F (<https://www.usg.edu/academic_affairs_handbook/section2/handbook/C738/#p2.4.5_rules_regarding_inclusion_in_areas_af>)
* See the prerequisite rules in the Academic and Student Affairs Handbook, Section 2.4.7 (<https://www.usg.edu/academic_affairs_handbook/section2/handbook/C738/#p2.4.7_prerequisites_and_exceptions>)

There are 4 parts to this form:

* [Part 1](#part1) is to be filled out by the **Institution** proposing the course.
* [Part 2](#part2) is to be filled out by the Regents’ Academic Advisory Committee (**RAC)** reviewing the course.
* [Part 3](#part3) is to be filled out by the Regents’ Advisory Committee on Academic Affairs (**RACAA)**, if needed.
* [Part 4](#part4) is to be filled out by the **Council on General Education**.

**Note to the Council on General Education:**

This recently developed course is being submitted to the Council on General Education as part of what we hope will be a prototype process whereby the Council on General Education can pre-approve common-numbered courses to be added to a Core Area for institutions that:

* wish to add the course to their cores
* and
* can demonstrate that students taking this course will meet their Area D Learning Outcomes.

If the Council on General Education pre-approves this course for Area D for non-STEM, non-health professions majors, institutions wishing to offer this course as part of their Area D will only have to submit an application stating their approved Learning Outcome for Area D and explaining how this course would enable students to meet that Learning Outcome.

This proposal was developed by a Data Science Working Group and will be submitted to the newly-formed Data Science RAC for review.

Points added or changed since the submission to the October 9 meeting are highlighted in green.

**Part 1. To be filled out by the institution proposing the course.**

|  |
| --- |
| **Note:**  This form and all ancillary information should be filled out in Word and saved as a single document using the following file-naming convention:UniqueAbbreviationForYourCollegeCoursePrefixCourseNumber for example **GCSUPSYC1101.docx**You will then fill out some very brief information and upload the entire document to the USG website at<https://www.usg.edu/strategic_academic_initiatives/committees/course_proposal_form>**Please do not delete any pages of this document.** |

1.  **Institution:**

Various USG Institutions

1. **This is a proposal for** (mark one box below):

|  |  |
| --- | --- |
|  | **Change in an already-approved course only, no change in Area.** Mark this box if you are making a change in a course that is already approved for Areas A-E at your institution. Provide information in the boxes below on the current course, the new course, and the rationale for the change. |
|  | Course change information |
|  | **From:**  |
|  | **To:**  |
|  | **Rationale:**  |
| X | Placement of a course into Areas **A-E** of the Core Curriculum. |

Data Science

1. **Course Subject** (e.g., philosophy):

DATA 1501

1. **Course Prefix and Number** (e.g., PSYC 1101):
2. **Course Title** as it appears (or will appear) in the catalog:

|  |
| --- |
| Introduction to Data Science |

1. **Lecture Hours – Laboratory Hours\* – Credit Hours** (e.g., 3-0-3):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3 |  | 0 |  | 3 |

\* In determining credit hours, 2 – 3 laboratory hours are usually equivalent to one credit hour. So a course with a 2 hour lab would be 3-2-4; a course with a 3 hour lab would be 3-3-4.

1. **Provide a catalog description of the course** in the box below:

|  |
| --- |
| This course is intended to provide an introduction into the field of Data Science. Students will develop skills in appropriate technology and basic statistical methods by completing hands-on projects focused on real-world data and addresses the social consequences of data analysis and application. |

1. **Course Prerequisites:**

|  |
| --- |
| **Learning Support Prerequisites or Corequisites:** Please select the most appropriate Learning Support prerequisite or corequisite statement. Check only one. |
|  | None |
|  | Corequisite: Learning Support English unless exempted. |
|  | Exit or exemption from Learning Support English. |
|  | Corequisite: Learning Support Mathematics unless exempted. |
| **X** | Exit or exemption from Learning Support Mathematics. |
|  | Exit or exemption from both Learning Support English and Learning Support Mathematics. |
|  | Other (explain): |
| **Collegiate Courses that will be Prerequisites and/or Corequisites for this course** (enter “none” if not applicable): |
| None |

1. **Requests for Exceptions to the Prerequisite Rules**

The Academic and Student Affairs Handbook, section [2.4.7](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.7_prerequisites_and_exceptions) states that:

Courses in one Area (A-E) may be prerequisites for other courses in that area.

Except as noted below,

* No course in Area A-E may be a prerequisite for any course outside Areas A-E.
* No course in one Area (A-E) may be a prerequisite for any course in any other areas (A-E).

Institutions may apply for permission to specify that students in one or more of their degree programs are required to take particular courses within Areas A-E. Applications will be considered first by the relevant Regents Academic Advisory Committees (the Advisory Committee for the degree program and the Advisory Committee for the course), then by the Administrative Committee on Academic Affairs (RACAA), and then by the Council on General Education.

**Are you requesting that students in a particular program or programs be required to take specific courses from electives within Areas A-E? (*Courses that are required of all students at your institution do not count here.*)**

|  |  |
| --- | --- |
|  | Yes |
| **X** | No |

If yes, which program or programs?

|  |
| --- |
|  |

Please review section [2.4.7](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.7_prerequisites_and_exceptions) of the Academic and Student Affairs Handbook and provide a rationale in support of your request.

|  |
| --- |
|  |

1. **Common Course Prefixes, Numbers, Titles, and Descriptions**

Does this course use a common course prefix and number as listed in the **Academic and Student Affairs Handbook, Section 2.4.10**? (Please review the list of common course prefixes, numbers, and descriptions at <https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.10_common_course_prefixes_numbers_and_descriptions>).

|  |  |
| --- | --- |
| X | Yes – Simultaneously submitting proposal to make this a common-numbered course |
|  | No |

**If you responded “no,”** is a common course prefix and number available for this course?

|  |  |
| --- | --- |
|  | Yes |
|  | No |

If you responded “no” that you are **not using a common course prefix and number** and “yes” that **a common course prefix and number are available for this course**, please explain in the space below why your institution does not want to use the common course prefix and number and why your institution selected the prefix and number indicated on this proposal.

|  |
| --- |
|  |

1. **Course approval by institution**

List each step of the approval process at your institution and provide the **dates** on which your proposal was approved by each body or at each level. **By submitting this proposal you are affirming that this proposal has already received all appropriate approvals at your institution and that the proposal is being submitted with the knowledge and final approval of the Provost/VPAA at your institution, who should be listed on one of the lines below.**

|  |  |
| --- | --- |
| **Date** | **Level or approving body** |
| 7/10/20 | Data Science Working Group\* |
|  |  |
|  |  |
|  |  |
|  |  |

1. **Core Area(s) for Proposed Course**

**What Core Area(s) (A-E) is this course being proposed for?**

D

|  |
| --- |
| **If Area D (only) specify appropriate groups of majors** |
|  | math/science majors |
|  | health professions majors |
| **X** | non-math/science/health professions majors |

**What is your institution’s approved Learning Outcome for the area(s) of the proposed course?**

The table below lists the Area D Learning Outcomes (or equivalent for UGA) for each USG institution. Institutions would only be allowed to add DATA 1501 to their Area D course offerings if they can demonstrate that this course meets their Area D Learning Objective. While the Data Science RAC/Working Group recognizes that this course could conceivably be offered in core curriculum areas other than Area D, this proposal is solely focused on gaining approval for this course to be offered in Area D. It is assumed that the Council on General Education will develop a streamlined approval process requiring institutions to show that this course meets their Area D outcome(s). Institutions wishing to include this course in an area other than Area D will have to submit full proposals to the Council on General Education.

|  |  |
| --- | --- |
| **Institution** | **Outcome** |
| Abraham Baldwin Agricultural College | Students apply scientific reasoning and methods of inquiry to explain natural phenomena. |
| Albany State University | Students will demonstrate an understanding of the physical or biological perspectives of the universe using the scientific method, mathematical concepts, or logical reasoning.  |
| Atlanta Metropolitan State College | Students will apply the steps and tenets of the scientific method. |
| Augusta University | The student will use scientific principles and knowledge to explain or predict natural phenomena. |
| Clayton State University | Students will apply scientific reasoning and methods of inquiry to solve problems or to explain natural phenomena. |
| College of Coastal Georgia | Students will be able to demonstrate the ability to solve problems and draw conclusions by analyzing situations and explaining them in numeric, graphical or symbolic form. (Mathematics)Students will demonstrate the knowledge of fundamental scientific concepts, the scientific method, and utilize laboratory procedures to observe natural phenomena. (Sciences) |
| Columbus State University | 1. Demonstrate knowledge and understanding of key principles, theories, facts, and current hypotheses in one or more areas of natural science
2. Demonstrate knowledge and understanding of scientific reasoning and how new knowledge is acquired in one or more areas of science, including the selection and use of appropriate methods, tools, and technology for answering questions and solving problems.
3. Relate scientific principles and methods to problems that are important to individuals and societies.
 |
| Dalton State College | 1. Students will utilize appropriate models, systematic methods, and concepts such as the scientific method to solve problems. 2. Students will demonstrate the ability to evaluate observations, inferences, or relationships in works under investigation. |
| East Georgia State College | Students will demonstrate effective use of scientific methods. |
| Fort Valley State University | Students will use the scientific method to explore naturally occurring phenomena and utilize appropriate technology to analyze and interpret data. |
| Georgia College and State University | Students will be able to use technology to facilitate problem-solving. Students will be able to use critical observation and analysis to model and/or predict natural phenomena. Students will be able to evaluate mathematical and/or quantitatively-based arguments. |
| Georgia Gwinnett College | Demonstrate creativity and critical thinking in inter- and multi-disciplinary contexts through effective use of the scientific method.Demonstrate effective use of information technology. |
| Georgia Highlands College | Students will demonstrate knowledge of college-level scientific concepts, along with the application of those concepts through experimentation and observation.Students will use appropriate models and quantitative methods to analyze data, explore relationships among variables, and find missing information. |
| Georgia Institute of Technology | Student will be able to demonstrate the ability to obtain, analyze, interpret, and criticize qualitative observations and quantitative measurements to explain natural phenomena and to test hypotheses. |
| Georgia Southern University | Students will use scientific reasoning and methods, mathematical principles, or appropriate technologies to investigate natural phenomena. |
| Georgia Southwestern State University | Students will be able to interpret symbolic representations of data relevant to the physical world. Students will be able to evaluate the relationship between observation and inference in the natural sciences. |
| Georgia State University | Students apply scientific and computational reasoning and methods of inquiry to explain natural phenomena and/or analyze quantitative information and solve applied problems. |
| Gordon State College | Students will demonstrate understanding of the natural world and methods of scientific investigation. |
| Kennesaw State University | Students will demonstrate an understanding of college-level scientific principles, theories, and laws, and apply them to solve problems and explore natural phenomena. Students will demonstrate an ability to effectively apply symbolic representations to model and solve problems. |
| Middle Georgia State University | Students will solve problems using scientific principles and the scientific method. |
| Savannah State University | Students demonstrate a collegiate-level understanding of the nature of science and the scientific method and knowledge of fundamental concepts in one or more fields of science. |
| South Georgia State College | Students will use reasoning and methods of inquiry to critically analyze data, solve problems, and explain natural phenomena. |
| University of Georgia | **II. Sciences (7-8 hours) –** Equivalent to Area D Students will be able to:1. Demonstrate an understanding of basic knowledge, principles, and laws in the natural sciences.2. Explain how knowledge is constructed in the sciences using the scientific method.3. Locate and evaluate reliable sources of scientific evidence to construct arguments, to apply scientific knowledge and to critically assess real-world issues.In addition to the learning outcomes above, on completion of a course with laboratory experience, students will be able to:1. Demonstrate proficiency in experimental science by making observations, understanding the fundamental elements of experiment design, generating and analyzing data using appropriate quantitative tools, using abstract reasoning to interpret data and relevant formulae, and testing hypotheses with scientific rigor. |
| University of North Georgia | Students will apply principles of scientific method and mathematical techniques to the analysis of the natural or physical world. |
| University of West Georgia | Demonstrate the ability to: 1. Apply scientific reasoning and methods, mathematical principles, or appropriate information technologies to explain natural phenomena or situations that arise in the real world.
2. Use appropriate scientific tools and instruments to acquire data, process information, and communicate results, adapting written communication to specific purposes and audiences.
 |
| Valdosta State University | Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems. |

**How will this course satisfy the Learning Outcome for this area?**

|  |
| --- |
| This course is intended to provide an Introduction into the field of Data Science. Students will develop skills in both computer programming and statistical inference by completing assignments and hands-on projects. |

**How will your institution assess whether students taking this course meet the approved Learning Outcome?**

|  |
| --- |
| Students are required to complete homework assignments, in class quizzes, mid-term exams, and a final exam and/or hands-on projects focused on real-world data. |

**How will this course fit into the General Education Core Curriculum at your institution?**

|  |
| --- |
| Adds a non-STEM data science option to Area D at appropriate institutions. College of Coastal Georgia recently had such a course approved for Area D. |

1. **Previous Versions of this Proposal**

**Have any proposals for this course previously been submitted by your institution to the Council on General Education?**

**Response on the revised submission for the December 11 meeting:**

|  |  |
| --- | --- |
| **X** | Yes |
|  | No |

If yes, please indicate the date or dates (for repeat submissions) as best you can.

|  |
| --- |
| October 9, 2021 |

What actions were taken on your previous submission(s)?

|  |  |
| --- | --- |
|  | Approved |
|  | Denied |
|  | Withdrawn |
| **X** | Tabled |

If a previous proposal was tabled or withdrawn, please explain.

|  |
| --- |
| The Council on General Education indicated that it wanted to develop its own process for reviewing/approving “template” courses before making a decision on this proposal. |

How have you changed this proposal since the last time you submitted a proposal for this course?

|  |
| --- |
| 1. Added an explanation as to why this course is only being proposed for Area D (in this proposal).
2. Corrected typo on page 9 (inference substituted for interface)
3. Removed redundant “Ethics” listing on page 14 under “Ethical Aspects of Data Science.”
4. We are providing (here) an explanation of why there is no explicit mention of programming languages or packages.

The Data Science Working Group discussed this matter extensively and declined to suggest programming languages or packages. The sentiment was that this would be two constraining. The goal in not specifying a programming language or package was to allow for a variety of approaches at diverse institutions with diverse resources and student populations.1. All changes from the original submission are highlighted in green.
 |

**Response on the submission for the October 9 meeting:**

|  |  |
| --- | --- |
| **X** | Yes |
|  | No |

If yes, please indicate the date or dates (for repeat submissions) as best you can.

|  |
| --- |
| A related proposal, initially titled DATA 1300 (later changed to DATA 1501) was submitted to the Council on General Education for the May 15, 2020 meeting. It was approved with conditions at that meeting. The conditions were deemed satisfied at the July 17, 2020 meeting. |

What actions were taken on your previous submission(s)?

|  |  |
| --- | --- |
| **X** | Approved |
|  | Denied |
|  | Withdrawn |
|  | Tabled |

If a previous proposal was tabled or withdrawn, please explain.

|  |
| --- |
|  |

How have you changed this proposal since the last time you submitted a proposal for this course?

|  |
| --- |
| This proposal is based on the final version of the College of Coastal Georgia DATA 1501 proposal, with some additional changes made by the Data Science Working Group. |

1. **Appropriate Academic Committee to Review this Proposal**

Please recommend the most appropriate Regents’ Academic Advisory Committee (RAC) to review this proposal. **DATA SCIENCE RAC**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Anthropology |  |  | Geological Sciences and Geography |
|  | Arts and Sciences Deans |  |  | Georgia Film Academy Film Production |
|  | Biological Sciences |  |  | History |
|  | Business Administration, Management, & Economics |  |  | Humanities |
|  | Chemistry |  |  | Kinesiology |
|  | Communication |  |  | Mathematical Subjects |
|  | Computing Disciplines |  |  | Nursing |
|  | Criminal Justice |  |  | Philosophy & Religion |
|  | Educator Preparation |  |  | Physics & Astronomy |
|  | English |  |  | Political Science |
|  | Environmental Science |  |  | Psychology |
|  | Family and Consumer Services |  |  | Social Work |
|  | Fine and Applied Arts |  |  | Sociology |
|  | Foreign Languages |  |  |  |

1. **Please provide the following contact information for the person submitting the proposal. This should be either the Provost/VPAA or someone designated by the Provost/VPAA:**

|  |  |
| --- | --- |
| **Name of Person Submitting Proposal:** | Jonathan Watts Hull |
| **Email Address:** | jonathan.hull@usg.edu |
| **Phone Number:** | 404-962-3129 |
| **Mailing Address:** | 270 Washington Street, SW.Atlanta, GA 30334 |

Please fill in the **Course Description Template** below. This should be generic information that will apply to ALL sections of the course to be taught at your institution, not just to courses taught by a particular instructor. Please do **not** attach a complete syllabus.

**Course Learning Outcomes**

Provide a bulleted list of the course learning outcomes.

#### Required Outcomes for all Sections of the Course (should account for 70 – 80% of course content)

#### Explain the importance of and be able to formulate a data analysis problem statement that is clear, concise, and measurable.

#### Identify and appropriately acknowledge sources of data.

#### Be able to apply basic data cleaning techniques to prepare data for analysis.

#### Be able to identify the categorical and/or numerical data types in a given data set.

#### Apply appropriate descriptive and inferential methods to summarize data and identify associations and relationships.

#### Use appropriate tools and technology to collect, process, transform, summarize, and visualize data.

#### Be able to draw accurate and useful conclusions from a data analysis.

#### Effectively communicate methods and findings in a variety of modes.

#### Differentiate between ethical and unethical uses of data science.

#### Additional Optional Learning Outcomes (should account for 20 – 30% of course content)

#### Identify goals and methods of testing hypotheses.

#### Explain the bootstrap methods.

#### Identify legal issues surrounding the use of data.

#### Mine data to develop predictive models and evaluation.

**Course Content**

Provide a topical outline demonstrating the breadth and depth of the course. Please be as comprehensive as possible within the limits of an outline.

**Topics (70%-80% of course content):**

**What are data?**

Sources of data, data collection and types of data

Sampling from a population

Data errors and appropriateness/Cleaning Data

The role of data in decision making at various levels of society

**Methods of Data Analysis, including, but not limited to:**

Distributions (including measures of central tendency and spread)

Expressions, names, and tables

Joins

Arrays

Functions

Modeling/mining the data

**Using Computational Tools and Statistical Techniques for basic data manipulation**

**Interpreting results of the data analysis/Data Interpretation, possibly including, but not limited to the following:**

Correlation

Chance

Decisions and error probabilities

Classification

Confidence intervals

Simulations

Empirical, Categorical, and Numerical Distributions

Assessing Models

**Communicate data-driven insights in multiple media modes**

Data visualization - (including graphs, charts, and histograms - univariate qualitative, univariate quantitative, bivariate)

Communication of the Data Science Findings and What It Means

Converting data into actionable information and the role of data in decision making at various levels of society

**Ethical Aspects of Data Science**

Accuracy

Misrepresentation

Privacy

Security

**Additional topics (20%-30% of course content):**

A/B Testing

Experiments

Hypothesis testing

Regression/Least squares

Prediction intervals

Inference for the true slope

Bootstrap

Bagging

Clustering

Frequent Patterns (Shopping Basket Analysis)

Information Retrieval

Anomaly Detection

Legal issues surrounding data

Causality and Experiments

**Assessment Strategies**

How will your institution assess whether students taking this course meet the approved Learning Outcome?

\_\_\_X\_ Direct Assessment (Student Artifacts Assessed by Rubric, Collegiate Learning Assessment, etc.)

\_\_\_\_\_ Indirect Assessment (Surveys, Exit Interviews, Focus Groups, etc.)

\_\_\_X\_ Other (Please, explain.)

* Weekly homework assignments for practice of the concepts.
* Mid-term exam to show mastery of concepts.
* Final exam and/or course project to exhibit mastery of the concepts and ability to handle real world data.

**Instructional Strategies**

Provide a list of the instructional strategies that will be used to achieve course learning outcomes, such as lecture or non-traditional methods such as online classes or the use of experiential instruction.

Lectures will be a blend of statistics and data science concepts and hands-on exploration of the topics using statistical software, including but not limited to R, Python, Excel, Google Sheets, etc.

**Potential Textbooks**

Provide examples of possible textbooks for the course.

[The Foundations of Data Science](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcompletega.org%2Fcivicrm%2Fmailing%2Furl%3Fu%3D213%26qid%3D&data=02%7C01%7Cbarbara.brown%40usg.edu%7C47b8a27fa5274441970908d824efedd0%7C4711f877fb3a4f11aaab3c496800c23d%7C0%7C0%7C637299960200789306&sdata=hcQoYMntjT4olDX8ct1s4cdro%2FcEtFDnPVs75ndtJro%3D&reserved=0)By Ani Adhikari and John DeNero, the OER that is currently used for the University of California - Berkeley Data 8 Course.  This is potentially one of many texts that would be appropriate for the course. Optimally, the text would be free or low-cost for students.

**Part 2. To be filled out by the Chair of the Regents’ Academic Advisory Committee (RAC)**

|  |
| --- |
| This part of the form should be completed by the Regents’ Academic Advisory Committee Chair after the course has been reviewed by the appropriate Regents’ Academic Advisory Committee (RAC).Upon completion of the form, please resave the form and send as an attachment to: Barbara.Brown@usg.edu**Please do not delete any pages of this document.** |

|  |
| --- |
| **Course Prefix, Number, & Title:** DATA 1501 Introduction to Data Science**Institution:**  Various institutions |

1. Date the review by the Regents’ Academic Advisory Committee (RAC) was completed:

|  |
| --- |
| November 24, 2020 |

1. Did the RAC **approve** this proposal?

|  |  |
| --- | --- |
| **X** | Yes |
|  | No |

1. Please enter the RAC review in the box below. Comments should focus on the appropriateness of inclusion of the proposed course in the core curriculum, utilizing the criteria in the Academic and Student Affairs Handbook, sections [2.4.4](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.4_details_regarding_areas_af) and [2.4.5](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.5_rules_regarding_inclusion_in_areas_af). (See [beginning](#beginning) of this form (before Part 1) for summary of criteria and links.)

|  |
| --- |
| This course adds a science option to Area D which is suitable for non-STEM majors at appropriate institutions. The RAC recommend changing “programming: in the Learning Outcomes and catalog description to “applications,” so the sentences read "Students will develop skills in both computer  applications and statistical inference by completing assignments and hands-on projects."There were some limited concerns about the need for careful design as a course without prerequisites because of the potential depth of the statistical inferences or programming that could be involved.  |

1. Please mark the areas of the Core Curriculum for which your committee has approved the changed or proposed course.

|  |  |
| --- | --- |
|  | **Area A (English, Mathematics)** |
|  | **Area B (Institutional Options)** |
|  | **Area C (Humanities, Fine Arts, Ethics)** |
| **X** | **Area D (Natural Sciences, Mathematics, Technology)** |
|  | If Area D, specify appropriate major(s): |
|  | **X** | math/science majors |
|  | **X** | health professions majors |
|  | **X** | non-math/science/health professions majors |
|  | **Area E (Social Sciences)** |

**Exceptions to the Prerequisite Rules**

The Academic and Student Affairs Handbook, section [2.4.7](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.7_prerequisites_and_exceptions) states that:

Courses in one Area (A-E) may be prerequisites for other courses in that area.

Except as noted below,

* No course in Area A-E may be a prerequisite for any course outside Areas A-E.
* No course in one Area (A-E) may be a prerequisite for any course in any other areas (A-E).

Institutions may apply for permission to specify that students in one or more of their degree programs are required to take particular courses within Areas A-E. Institutions may apply for up to 9 hours of such requirements. If permission is granted, these courses may be prerequisites for courses in Area F or in the major’s degree requirements.

Applications for exceptions to the prerequisite rule will be considered first by the relevant **Regents Academic Advisory Committees** (the Advisory Committee for the degree program and the Advisory Committee for the course), then by the Administrative Committee on Academic Affairs (RACAA), and then by the Council on General Education. The Council on General Education will make a recommendation to the Executive Vice Chancellor and Chief Academic Officer of the USG.

Did the institution apply for an exception to the general prerequisite rules?

|  |  |
| --- | --- |
|  | Yes |
| **X** | No |

If yes, did the advisory committee **approve** exceptions to the prerequisite rules?

|  |  |
| --- | --- |
|  | Yes |
|  | No |

Please enter the RAC comments on the request for an exception to the prerequisite rules in the box below. Please clearly outline the programs that will be allowed to require particular courses within Areas A – E and the courses that may be required.

|  |
| --- |
| None |

Please provide contact information for the Chair of the Regents’ Academic Advisory Committee.

|  |  |
| --- | --- |
| **Academic Committee:** | Data Science RAC |
| **Chair name:** | Jonathan Watts Hull (Liaison, representing the group) |
| **Chair institution:** | System Office, USG |
| **Chair daytime phone number:** | 404-962-3129 |
| **Chair email Address:** | jonathan.hull@usg.edu |

**Part 3. To be filled out by the Regents’ Advisory Committee on Academic Affairs (RACAA), if needed.**

|  |
| --- |
| **Course Prefix, Number, & Title:** DATA 1501 Introduction to Data Science**Institution:**  Various institutions |

The Academic and Student Affairs Handbook, section [2.4.7](https://www.usg.edu/academic_affairs_handbook/section2/C738/#p2.4.7_prerequisites_and_exceptions), **Prerequisites and Exceptions** states that:

Courses in one Area (A-E) may be prerequisites for other courses in that area.

Except as noted below,

* No course in Area A-E may be a prerequisite for any course outside Areas A-E.
* No course in one Area (A-E) may be a prerequisite for any course in any other areas (A-E).

Institutions may apply for permission to specify that students in one or more of their degree programs are required to take particular courses within Areas A-E. Institutions may apply for up to 9 hours of such requirements. If permission is granted, these courses may be prerequisites for courses in Area F or in the major’s degree requirements.

Applications for exceptions to the prerequisite rule will be considered first by the relevant Regents Academic Advisory Committees (the Advisory Committee for the degree program and the Advisory Committee for the course), then by the **Administrative Committee on Academic Affairs (RACAA)**, and then by the Council on General Education. The Council on General Education will make a recommendation to the Executive Vice Chancellor and Chief Academic Officer of the USG.

1. Date the RACAA review was completed:

|  |
| --- |
| NA – RACAA review not required. |

1. Did the institution apply for an exception to the general prerequisite rules?

|  |  |
| --- | --- |
|  | Yes |
| **X** | No |

1. If yes, did RACAA **approve** the exception to the prerequisite rules?

|  |  |
| --- | --- |
|  | Yes |
|  | No |

1. Please enter the RAC comments on the request for an exception to the prerequisite rules in the box below. Please clearly outline the programs that will be allowed to require particular courses within Areas A – E and the courses that may be required.

|  |
| --- |
| Insert text here. Box will expand as needed. |

1. Please provide contact information for the **RACAA Chair**.

|  |  |
| --- | --- |
| **Chair name:** |  |
| **Chair institution:** |  |
| **Chair daytime phone number:** |  |
| **Chair email Address:** |  |

**Part 4. To be filled out by the System Liaison for the Council on General Education. Feedback from December 11 meeting.**

|  |
| --- |
| **Course Prefix, Number, & Title:** DATA 1501 Introduction to Data Science**Institution:**  Various institutions |

1. Date the review by the Council on General Education was conducted:

|  |
| --- |
| December 11, 2020 |

1. What action did the Council on General Education take with respect to this proposal?

|  |  |
| --- | --- |
| **X** | Approved |
|  | Denied |
|  | Withdrawn |
|  | Tabled |

1. Please enter any comments from the Council on General Education in the box below. Comments should focus on the appropriateness of inclusion of the proposed course in the core curriculum, utilizing the criteria in the Academic and Student Affairs Handbook. (See [beginning](#beginning) of this form for summary of criteria and links.)

|  |
| --- |
| The primary reviewer stated that the questions raised about this proposal in October have now been satisfactorily addressed. The proposal was approved unanimously. |

1. Please mark the areas of the Core Curriculum for which the Council on General Education has approved the changed or proposed course.

|  |  |
| --- | --- |
|  | **Area A (English, Mathematics)** |
|  | **Area B (Institutional Options)** |
|  | **Area C (Humanities, Fine Arts, Ethics)** |
| **X** | **Area D (Natural Sciences, Mathematics, Technology)** |
|  | If Area D, specify appropriate major(s): |
|  |  | math/science majors |
|  |  | health professions majors |
|  | **X** | non-math/science/health professions majors |
|  | **Area E (Social Sciences)** |

1. Please provide contact information for the System Liaison to the Council on General Education.

|  |  |
| --- | --- |
| **Liaison name:** | Barbara L. Brown |
| **Liaison daytime phone number:** | 404-962-3107 |
| **Liaison email Address:** | Barbara.Brown@usg.edu |

**Part 4. To be filled out by the System Liaison for the Council on General Education. Feedback from October 9 meeting.**

|  |
| --- |
| **Course Prefix, Number, & Title:** DATA 1501 Introduction to Data Science**Institution:**  Various institutions |

1. Date the review by the Council on General Education was conducted:

|  |
| --- |
| October 9, 2020 |

1. What action did the Council on General Education take with respect to this proposal?

|  |  |
| --- | --- |
|  | Approved |
|  | Denied |
|  | Withdrawn |
| **X** | Tabled |

1. Please enter any comments from the Council on General Education in the box below. Comments should focus on the appropriateness of inclusion of the proposed course in the core curriculum, utilizing the criteria in the Academic and Student Affairs Handbook. (See [beginning](#beginning) of this form for summary of criteria and links.)

|  |
| --- |
| The Council voted to table this proposal because it involves a process that does not yet exist as a Council process. The Council would like to develop its own process and apply it to this proposal. A Council committee has been formed to develop the process on a timeframe that this proposal could be re-reviewed at the December 11 Council meeting. Members of this committee may interact with the Data Science Working Group before that time. Suggestions about this proposal: It might be useful to provide examples of the types of programming languages (or packages) that would be used in this course. It was recommended that the proposal should provide greater flexibility about where this proposal should be placed in the core. (Suggestion that some institutions might want to use it in Area A2 or Area D.) Provide guidance as to where it could go. Inconsistencies that should be corrected. On page 13, Ethics is listed as a subset of “Ethical Aspects of Data Science,” which seems redundant. On page 9, there appears to be typo. Under “How will this course satisfy the Learning Outcome for this area?” it refers to “statistical interface.” This should probably “statistical inference.” |

1. Please mark the areas of the Core Curriculum for which the Council on General Education has approved the changed or proposed course.

|  |  |
| --- | --- |
|  | **Area A (English, Mathematics)** |
|  | **Area B (Institutional Options)** |
|  | **Area C (Humanities, Fine Arts, Ethics)** |
|  | **Area D (Natural Sciences, Mathematics, Technology)** |
|  | If Area D, specify appropriate major(s): |
|  |  | math/science majors |
|  |  | health professions majors |
|  |  | non-math/science/health professions majors |
|  | **Area E (Social Sciences)** |

1. Please provide contact information for the System Liaison to the Council on General Education.

|  |  |
| --- | --- |
| **Liaison name:** | Barbara L. Brown |
| **Liaison daytime phone number:** | 404-962-3107 |
| **Liaison email Address:** | Barbara.Brown@usg.edu |

This form was last updated on 5/18/20