

# HON - 152 - Honors in Natural, Physical and Mathematical Sciences (Subtitle required)

## Course Change with Core

### Course Change with Core

#### **Turn on help text**

To ensure that your course change proposal is launched correctly, please follow the steps below. Course change proposals that are not launched properly will be returned to the originator, who will be asked to resubmit the proposal following the steps below.

[CLICK HERE FOR COMPLETE INSTRUCTIONS ON CREATING A COURSE CHANGE PROPOSAL.](#)

Turn on help text.

Click the import icon to import data from SAP. **THIS IS REQUIRED FOR ALL COURSE CHANGE PROPOSALS. DO NOT** change data that was imported from SAP.

Make sure all required fields have been completed. These fields are denoted with an (\*). **DO NOT** change data that was imported from SAP.

Launch the proposal by clicking the launch icon.

The proposal will return to the originators inbox under the 'My Tasks' tab.

At this time, you may make the proposed changes to the course change proposal.

Once you have made all of the changes click the launch button. *Please note, once you click the launch button on this step the proposal will move onto the next approval step in the workflow..*

\* denotes required fields

Current Prefix:\*

HON

Current Number:\* 152

Proposed Prefix

HON

Proposed Number 152

Check if same as current  Same as current

What type of change is being proposed?\*

- Major Change
- Major - Change Content
- Major - Add Distance Learning
- Minor - change in number within the same hundred series, exception 600-799 is the same "hundred series"
- Minor - editorial change in course title or description which does not imply change in content or emphasis
- Minor - a change in prerequisite(s) which does not imply a change in course content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s)
- Minor - a cross listing of a course as described above

Is this course clinical? Also select "Yes" if the course is not clinical but you wish for the course to be reviewed by the HCCC.\*

Yes

No

#### 1. General Information

a. Submitted by the College of:\*

Lewis Honors College (8C000)

b. Department/ Division:\*

Honors College (CM8C000HCO)

c. Is there a change in "ownership" of the course?  Yes  No \*

If YES, what college/ department will offer the course instead?

e. Contact Person Name:\* Czarena Crofcheck

Email:\* crofcheck@uky.edu

Phone:\* 218-4349

f. Requested Effective Date:\*  Semester Following Approval  Specific Term

If specific term:

Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

What is the rationale for this proposal?\* We have revised the course description so that it's better aligned with the course descriptions for other courses that count for the UK core.

## 2. Designation and Description of Proposed Course.

a. Distance Learning (DL) Status:\*  N/A  
 Already approved for DL\*  
 Please Add  
 Please Drop

Already approved for DL  \*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box ) that the proposed changes do not affect DL delivery.

The FULL title of the course needs to be written out in the first box and IF the title is more than 40 characters, THEN, the title needs to be shortened for the insertion on the transcript. The full title of the course is what is put in the bulletin and the second is what is inserted on the transcript.

b. Current Title:\* Honors in Natural, Physical and Mathematical Sciences (Subtitle required)

Proposed Title \* Honors STEM (Subtitle required)

c. Transcript Title (if full title is more than 40 characters):\* Honors STEM: (subtitle)

d. Current Cross-listing:\*  N/A  Currently Cross-listed

Currently Cross-listed with (Prefix & Number):

ADD Cross-listing (Prefix & Number):

REMOVE Cross-listing (Prefix & Number):

Using the Files tab in the Proposal Toolbox, attach a letter of support from the chair of the cross-listing department.

e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours for each meeting pattern type.

Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See SR 5.2.1.)

For courses with variable credit, please use the following format (no spaces): #-###

Lecture: 3

Laboratory:

Clinical:

Colloquium:

Seminar:

Studio:

Recitation:

Discussion:

Indep. Study:

Practicum:

Research:

Residency:

Other:

Please Explain

- f. Grading System:\*  Letter (A, B, C, etc.)  
 Pass/Fail  
 Medicine Numeric Grade  
 Graduate Level Grade Scale

g. Number of credit hours:\* 3

h. Is the course currently repeatable? \*  Yes  No

Proposed: to be repeatable for additional credit? \*  Yes  No

If YES, Maximum number of credit hours: 6

If YES, Will this course allow multiple registrations during the same semester? \*  Yes  No  N/A

i. Course Description for Bulletin:\* Honors STEM courses vary in topic by professor and are announced prior to course registration. These courses engage students in the scientific process within a given STEM topic, emphasizing scientific methods and fundamental scientific principles within a societal context and employing interdisciplinary approaches. These courses feature elements of Honors pedagogy such as classroom discussion, engagement with peer-reviewed literature, and active participation in the research process (including data collection and analysis, and/or extensive literature review and synthesis). May be repeated up to six credits under a different subtitle. This course fulfills UK Core requirement for Intellectual Inquiry in the Natural/Physical/Mathematical Sciences.

j. Prerequisites, if any: Prereq: Lewis Honors students only.

3. Is this course taught off campus?

a.\*  Yes  No

If YES, enter the off campus address:

4. Are significant changes in content/ student learning outcomes of the course being proposed?

a.\*  Yes  No

If YES, explain and offer brief rationale:

5. Course Relationship to Program(s).

a. Are there other depts and/or pgms that could be affected by the proposed change?\*

Yes  No

If YES, identify the depts. and/or pgms:

b. Will modifying this course result in a new requirement for ANY program?\*

Yes  No

If YES, list the program(s) here:

In order to change a program, a program change form must also be submitted.

6. Information to be Placed on Syllabus.

a.  Check box if changed to 400G or 500.

If changed to 400G- or 500-level course you must send in a syllabus and you must include the differentiation between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See SR 3.1.4.)

## Distance Learning Form

This form must accompany every submission of a new/change course form that requests a change in delivery mode. All fields are required!

**Introduction/Definition:** For the purposes of the Commission on Colleges Southern Association of Colleges and Schools accreditation review, *distance learning* is defined as a formal educational process in which the majority of the instruction (interaction between students and instructors and among students) in a course occurs when students and instructors are not in the same place. Instruction may be synchronous or asynchronous. A distance learning (DL) course may employ correspondence study, or audio, video, or computer technologies.

A number of specific requirements are listed for DL courses. **The department proposing the change in delivery method is responsible for ensuring that the requirements below are satisfied at the individual course level.** It is the responsibility of the instructor to have read and understood the university-level assurances regarding an equivalent experience for students utilizing DL (available at <http://www.uky.edu/USC/New/forms.htm>).

Instructor Name:

Instructor Email:

Check the method below that best reflects how the majority of the course content will be delivered.

Internet/Web-based  
 Interactive Video  
 Hybrid

## Curriculum and Instruction

**1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?**

**2. How do you ensure that the experience for DL student is comparable to that of a classroom-based student's experience?**  
Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

**3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.**

**4. Will offering this course via DL result in 25% or 50% (based on total credit hours required for completion) of a degree program or certificate being offered via any form of DL, as defined above?**  Yes  No

**If yes, which program(s)?**

**5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?**

## **Library and Learning Resources**

**6. How do course requirements ensure that students make appropriate use of learning resources?**

**7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.**

## **Student Services**

**8. How are students informed of procedures for resolving technical complaint? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Canvas Support Hotline/Chat or ITS Service Desk?**

9. Will the course be delivered via services available through ITS Academic Technologies & Faculty Engagement?  Yes  No

If no, explain how students enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

Instructor's **virtual** office hours, if any.  
Technological requirements for the course.  
Procedure for resolving technical complaints.  
Preferred methods for reaching instructor, e.g. email, phone, or text message.  
Maximum timeframe for responding to student communications.  
Contact information for Information Technology Customer Service Center:

Web: <http://www.uky.edu/UKIT/>  
Phone: 859-218-HELP

Web Address for Distance Learning services: <http://www.uky.edu/ukonline/>  
Language pertaining academic accommodations (below)

*"If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. Please initiate the accommodation process by submitting an online Intake Form (found at <http://www.uky.edu/DisabilityResourceCenter/content/apply-services>) or by contacting the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. DRC staff will discuss possible accommodations with you and provide you with a Letter of Accommodation. Once you receive your Letter of Accommodation, please set up an appointment to see me or stop by during scheduled office hours to discuss how your accommodation will be addressed. The DRC is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at [drc@uky.edu](mailto:drc@uky.edu). Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.*

Information on Distance Learning library services

Carla Cantagallo, DL librarian  
Phone: (859) 218-1240  
Email: [carla@uky.edu](mailto:carla@uky.edu)  
Web: <http://libraries.uky.edu/DLLS>  
DL Interlibrary Loan Service: <http://libraries.uky.edu/dlls>

10. Does the syllabus contain all the required components, above?  Yes

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

## Intellectual Inquiry in Arts & Creativity

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

Intellectual Inquiry in Arts & Creativity  Check if requesting approval.

Using the course syllabus as reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

An artifact (e.g. an object, product, installation, presentation, record of a performance etc.) that demonstrates personal engagement with the creative process either as an individual or as part of collaborative.

**Example(s) from syllabus:**

**Brief Description:**

Evidence that students utilize readings, lectures, presentations or other resources to define and distinguish approaches (historical, theoretical, and methodological issues) to “creativity” as appropriate to the disciplinary practices specific to the subject, medium, or approach of this course.

**Example(s) from syllabus:**

**Brief Description:**

The processes and assignments where students apply the logic, laws, and/or constraints of the area of study, (e.g, “out of the box” thinking or application of given rules or forms).

**Example(s) from syllabus:**

**Brief Description:**

Assignments or exercises that require students to demonstrate the ability to critically analyze work produced by other students in this course and in co-curricular events using appropriate tools.

**Example(s) from syllabus:**

**Brief Description:**

The process whereby students evaluate the process and results of their own creative endeavors and, using that evaluation, reassess and refine their work.

**Example(s) from syllabus:**

**Brief Description:**

**Describe how students demonstrate the use of information literacy resources:**

**Reviewer’s Comments:**

## Intellectual Inquiry in the Humanities

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Intellectual Inquiry in the Humanities**  Check if requesting approval.

Using the course syllabus as reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Activities that enable students to demonstrate their ability to present and critically evaluate competing interpretations through written and oral analysis and argumentation.

**Example(s) from syllabus:**

**Brief Description:**

Activities that enable students to demonstrate their ability to distinguish different artistic, literary, philosophical, religious, linguistic, and historical schools or periods according to the varying approaches and viewpoints characterized therein.

**Example(s) from syllabus:**

**Brief Description:**

Activities that enable students to demonstrate their ability to identify the values and presuppositions that underlie the world-views of different cultures and peoples, as well as one's own culture, over time through the analysis and interpretation of at least one of the following: works of art, literature, folklore, film, philosophy and religion, language systems or historical narratives (or the primary sources of historical research).

**Example(s) from syllabus:**

**Brief Description:**

Activities that enable students to demonstrate disciplinary literacy (vocabulary, concepts, methodology) in written work, oral presentations, and classroom discussions.

**Example(s) from syllabus:**

**Brief Description:**

An assignment that enables students to demonstrate their ability to conduct a sustained piece of analysis of some work of art, literature, folklore (or popular culture), film (or other digital media), philosophy, religion, language system, or historical event or existing historical narrative that makes use of logical argument, coherent theses, and evidence of that discipline, with use of library sources when applicable, demonstrating appropriate information literacy in a particular discipline of the humanities (i.e. identifying appropriate sources, accessing them and assessing their value). This assignment will be used for program-level assessment.

**Example(s) from syllabus:**

**Brief Description:**

**Information literacy component:**

**Reviewer's Comments:**

## Inquiry in the Social Sciences

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Inquiry in the Social Sciences**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Readings, lectures, or presentations that promote students' ability to define and distinguish different theoretical approaches associated with a social science discipline, either broadly or as applied to an important social science topic.

**Example(s) from syllabus:**

**Brief Description:**

Processes or assignments where students apply their understanding of methods and ethics of inquiry which lead to social scientific knowledge.

**Example(s) from syllabus:**

**Brief Description:**



Artifacts of assignments or exercises that require students to demonstrate the ability to identify and use appropriate information resources to substantiate evidence-based claims.

**Example(s) from syllabus:**

**Brief Description:**

Processes, assignments or exercises that demonstrate students' application of the knowledge of how a social science discipline influences society.

**Example(s) from syllabus:**

**Brief Description:**

Artifacts of assignments or exercises that require students to demonstrate an ability to identify a well-formulated question pertinent to a social science discipline and to employ the discipline's conceptual and methodological approaches in identifying reasonable research strategies that could speak to the question.

**Example(s) from syllabus:**

**Brief Description:**

**Reviewer's Comments**

## Inquiry in the Natural/Mathematical/Physical Sciences

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Inquiry in the Natural/  
Mathematical/ Physical  
Sciences**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Course activities that enable students to demonstrate an understanding of methods of inquiry that lead to scientific knowledge and distinguish scientific fact from pseudoscience.

**Example(s) from syllabus:** Research Project

**Brief Description:** Students will participate in a hands-on research project, putting methods of scientific inquiry into practice. Furthermore, students will conduct literature review of relevant peer-reviewed literature, and incorporate into a manuscript-style paper and a seminar-style presentation. In addition, course readings and discussion will address methods used to create scientific knowledge, including an evaluation of the soundness and appropriateness of these methods.

Course activities that enable students to demonstrate an understanding of the fundamental principles in a branch of science.

**Example(s) from syllabus:** Ecosystem Presentations

**Brief Description:** Students, working in teams of two, will survey the literature for one ecosystem of interest (forest, grassland, stream, or wetland) and prepare a ~30-minute informal presentation addressing at least the following: 1) Description of the ecosystem in Kentucky, including both historical and present conditions (e.g., Where in Kentucky? What kinds of services are provided? What kinds of social and cultural values?, etc.) 2) What are the major threats to the ecosystem in Kentucky?, 3) What are major challenges facing restoration of the ecosystem?, 4) What are major restoration endpoints or goals for the ecosystem?, 5) What are primary techniques/approaches for restoration of the ecosystem?, 6) What monitoring approaches are used to evaluate restoration success?

Course activities that enable students to demonstrate the application of fundamental principles to interpret and make predictions in that branch of science.

**Example(s) from syllabus:** Research Project

**Brief Description:** Students, in teams of two or three, will conduct a hands-on research project at a local restoration ecology site (location TBD). The project will focus on disturbance and/or restoration. Students will collect data as part of a required research field trip (see below), analyze these data, and prepare a final presentation and paper. For the presentation, students will include at least the following: 1) description of the ecosystem being studied, 2) characteristics of the impact (e.g., invasive species), 3) experimental approach (including photos and diagrams of research methods as helpful), 4) important results (including tables and charts as appropriate), 5) interpretation of results, and 6) discussion of next research steps. The final product for this course will be a formal scientific paper in which students will write up the results from their research project. The paper should be written in standard scientific manuscript format, with the following sections (with headings) required: Abstract, Introduction, Methods and Materials, Results, Discussion, Conclusions. (More detailed instructions on these sections included in a handout on Canvas). Students should conduct rigorous literature review and place their project and project results in the context of the literature.

**Course activities that enable students to demonstrate their ability to discuss how at least one scientific discovery changed the way scientists understand the world.**

**Example(s) from syllabus:** Course Readings and Discussion

**Brief Description:** Students will engage with primary literature (peer-reviewed articles from journals such as Ecological Restoration and Restoration Ecology), including important discoveries and advancements shaping the field of ecological restoration.

**Course activities that enable students to demonstrate their ability to discuss the interaction of science with society.**

**Example(s) from syllabus:** Course Readings and Discussion

**Brief Description:** Ecological restoration is an interdisciplinary field that interacts directly with society—social and economic values can dramatically influence priorities and goals in ecological restoration. The interplay of ecological restoration and society will be a primary focus of the course.

**A hands-on student project is required. This project enables students to demonstrate their ability to conduct a scientific project using scientific methods that include design, data collection, analysis, summary of the results, conclusions, alternative approaches, and future studies. Describe the required student product (paper/ laboratory report) based on the hands-on project.**

**Describe the required student product (paper/ laboratory report) based on the hands-on project:** Students, in teams of two or three, will conduct a hands-on research project at a local restoration ecology site (location TBD). The project will focus on disturbance and/or restoration. Students will collect data as part of a required research field trip (see below), analyze these data, and prepare a final presentation and paper. For the presentation, students will include at least the following: 1) description of the ecosystem being studied, 2) characteristics of the impact (e.g., invasive species), 3) experimental approach (including photos and diagrams of research methods as helpful), 4) important results (including tables and charts as appropriate), 5) interpretation of results, and 6) discussion of next research steps. The final product for this course will be a formal scientific paper in which students will write up the results from their research project. The paper should be written in standard scientific manuscript format, with the following sections (with headings) required: Abstract, Introduction, Methods and Materials, Results, Discussion, Conclusions. (More detailed instructions on these sections included in a handout on Canvas). Students should conduct rigorous literature review and place their project and project results in the context of the literature.

**Course activities that demonstrate the integration of information literacy into the course.**

**Example(s) from syllabus:** Case Studies

**Brief Description:** Students will find a restoration ecology case study in each of the ecosystem types we are addressing (forest, wetland, stream, and grassland), critically review the paper, and present the project to the class (oral presentation, no powerpoint), with particular attention to at least the following project features: 1) type or source of disturbance, 2) impacts of disturbance (including social and ecological), 3) restoration goals, 4) restoration approach, 5) criteria for success of restoration of their ecosystem, and 6) monitoring approaches to evaluate restoration success.

**Reviewer's Comments**

## Composition and Communication I

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Composition and Communication I**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

A sequence of formal written assignments requiring students to represent relevant and informed points of view appropriate for the audience, purpose, and occasion. These assignments must represent at least 35% of the final grade.

Please explain:

A sequence of oral presentation assignments requiring students to represent relevant and informed points of view appropriate for the audience, purpose, and occasion. These assignments must represent at least 35% of the final grade.

Please explain:

Readings, activities and assignments that require students to analyze, create, and use visuals as a form of communication (these visuals can be part of the oral and written assignments described in items #1 and #2 above).

Please explain:

Readings, activities, and assignments that demonstrate an awareness of appropriate strategies used to communicate effectively in different situations (large group, small group, interpersonal) and contexts (face-to-face & digital).

Please explain:

Readings, activities and assignments that require students to find, analyze, evaluate, and properly cite pertinent primary and secondary sources.

Please explain:

The processes through which students learn to develop flexible and effective strategies for organizing, revising, practicing/rehearsing, editing, and proofreading (for grammar and mechanics) to improve the development and clarity of their ideas.

Please explain:

The processes through which students learn to define revision strategies for essays, speeches, and visuals; set goals for improving them; and devise effective plans for achieving those goals, in collaboration with peers, instructor, and librarians.

Please explain:

Readings and activities that enable students to work effectively in a range of small group activities

Please explain:

Reviewer's Comments

## Composition and Communication II

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Composition and Communication II**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Assignments for one or more major projects grounded in scholarly research, delivered in *written and oral form with visuals* in a manner that a) is appropriate and effective for the audience, purpose and occasion and b) demonstrates advanced strategies for developing ideas and analyzing arguments, with emphasis on addressing and mediating issues of public interest, and with evidence of critical thinking in both the conception and the development of the thesis. These assignments must represent at least 70% of the final grade.

**Please explain:**

Demonstration through readings, activities, and assignments that the development of at least one major scholarly project is the course's *primary educational focus*.

**Please explain:**

Readings, activities and assignments that require students to conduct significant research on a subject, using the resources of the UK Libraries and other sources.

**Please explain:**

The processes through which students learn to refine their speaking, writing, and visual communication skills, focusing on matters of construction, design, and delivery style.

**Please explain:**

Assignments and exercises that demonstrate students' ability to critique the oral and written and visual work of peers and professionals in a variety of contexts?

**Please explain:**

Assignments or exercises that revise their written and oral and visual presentations, in collaboration with peers, instructor, librarians and pertinent members of the public.

**Please explain:**

Assignments or exercises that enable students to employ and evaluate formal interpersonal and small group communication skills effectively. These assignments must represent at least 15% of the final grade.

**Please explain:**

**Reviewer's Comments**

## Quantitative Foundations

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Quantitative Foundations**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

1. Students must demonstrate proficiency with number sense (e.g., order of magnitude, estimation, comparisons, effect of operations)

**Date/ location on syllabus  
or assignment:**

**Brief Description:**

2. Students must demonstrate proficiency with functional relationships between two or more sets of variable values (i.e., when one or more variables depend upon, or are functions of, other variables)

**Date/ location on syllabus  
or assignment:**

**Brief Description:**

3. Students must demonstrate proficiency in relating different representations of such relations (e.g., algebraically or symbolically, as tables of values, as graphs, and verbally)

Date/ location on syllabus  
or assignment:

Brief Description:

4. Students must demonstrate understanding of relations between numerical values.

Date/ location on syllabus  
or assignment:

Brief Description:

5. Students must demonstrate that they can apply fundamental elements of mathematical, logical, or statistical knowledge to model and solve problems drawn from real life.

a) Students must be able to recast and formulate everyday problems into appropriate mathematical or logistical systems, represent those problems symbolically, and express them visually or verbally.

Date/ location on syllabus  
or assignment:

Brief Description:

b) Students must be able to apply the rules, procedures, and techniques of appropriate deductive systems to analyze and solve problems.

Date/ location on syllabus  
or assignment:

Brief Description:

c) Students must be able to apply correct methods of argument and proof to validate (or invalidate) their analyses, confirm their results, and to consider alternative solutions.

Date/ location on syllabus  
or assignment:

Brief Description:

d) Students must be able to interpret and communicate their results in various forms, including in writing and speech, graphically and numerically.

Date/ location on syllabus  
or assignment:

Brief Description:

e) Students must be able to identify and evaluate arguments that contain erroneous or fallacious reasoning, and detect/describe the limitations of particular models or misinterpretations of data, graphs, and descriptive statistics.

Date/ location on syllabus  
or assignment:

Brief Description:

f) Students must address Information Literacy as presented within curriculum for the science of quantitative reasoning. This involves problem solving, the use of estimation, thinking strategies for basic facts, formulating and investigating questions from problem situations, use of computers and calculators, or other technologies.

Date/ location on syllabus  
or assignment:

Brief Description:

At least 30% of the course addresses the items 1 – 4 on this checklist, and at least 40% of the course addresses items 5 a) – e) on the checklist.

Reviewer's Comments

## Statistical Inferential Reasoning

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**Statistical Inferential Reasoning**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Evidence of course activities that will enable students to evaluate common claims arising from the formal statistical inference conveyed through margins of error and confidence intervals; and to articulate the sense in which margins of error and confidence intervals address and quantify risks that are of practical interest.

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

Evidence of course activities that will enable students to evaluate common claims arising from the formal statistical inference conveyed through null hypothesis testing within statistically designed experiments, and to articulate the sense in which null hypothesis testing addresses and quantifies risks that are of practical interest.

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

Evidence of course activities that will enable students to evaluate common claims that arise from statistical constructs, like charts and graphs, tables and numerical summaries, through the informal act of human inference; and to articulate some of the associated challenges (e.g. with conditional reasoning, hidden variables, confounding, association versus correlation, not having the right information, misinterpreting randomness).

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

Topic distribution includes estimation (at least 25%), statistical testing (at least 25%), describing data (at least 20%), and information literacy (at least 5%).

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

Assessable artifact(s) are identified and focused on demonstrating that the use and worth of statistical inference is for making everyday decisions. The artifact(s) should be conceptually focused and not primarily focused on computations and derivations.

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

Sufficient evidence to suggest that the course is not confined to, or even largely focused on computation, but rather is designed to provide a conceptual understanding of statistical inferential reasoning (increasing student skill with computations is a perfectly acceptable by-product of the course). This box must be checked by the reviewer for the submission to move forward.

**Date(s)/ location(s) on syllabus or assignment:**

**Brief Description:**

**Reviewer's Comments:**

**U.S. Citizenship/Diversity/Community**

Please complete this section if you are seeking approval for this course to be included in this UK Core area. If not, then collapse this section and skip to the next section.

**U.S. Citizenship/ Diversity/ Community**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Evidence that demonstrates student understanding of historical, societal, and cultural differences, such as those arising from race, ethnicity, gender, sexuality, language, nationality, religion, political and ethical perspectives, and socioeconomic class.

**Date/ location on syllabus of such evidence:**

**Brief description or example:**

Materials and processes that foster student understanding of how these differences influence issues of social justice and/or civic responsibility.

**Date/ location on syllabus of such evidence:**

**Brief description or example:**

Readings, lectures, or presentations that encourage students to demonstrate an understanding of historical, societal, and cultural contexts relevant to the subject matter of the course.

**Date/ location on syllabus of such evidence:**

**Brief description or example:**

Processes and assignments that engage students in understanding at least two of the following, as they pertain to the subject matter of the course:

- a. Societal, cultural, and institutional change over time
- b. Civic engagement
- c. Regional, national, or cross-national comparisons
- d. Power and resistance

**Date/ location on syllabus of such evidence:**

**Brief description or example:**

At least two assessable individual or group projects that focus on personal and/or collective decision-making. The projects should require students to identify and evaluate conflicts, compromises, and/or ethical dilemmas. These projects shall demonstrate a basic understanding of effective and responsible participation in a diverse society.

**Date/ location on syllabus of such evidence:**

**Brief description or example:**

Evidence that students make effective use of library and other information sources, when applicable, in order to demonstrate information

literacy in the exploration of the course's major thematic foci.

**Date/ location on syllabus of such an assignment:**

**Brief description or example:**

**Reviewer's Comments:**

## Global Dynamics

**Global Dynamics**  Check if requesting approval.

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Course activities which enable students to demonstrate a grasp of the origins and shaping influence of human diversity and issues of equality in the world.

**Date/ location on syllabus of assignment:**

**Brief Description:**

Course activities which enable students to demonstrate an understanding of the civic and other complexities and responsibilities of actively participating in a diverse, multiethnic, multilingual world community.

**Date/ location on syllabus of assignment:**

**Brief Description:**

Course activities which enable students to demonstrate an awareness of how individual and collective decision making and civic responsibilities often generate ethical dilemmas, conflicts, and trade-offs that must be thoughtfully evaluated, weighed, and resolved.

**Date/ location on syllabus of assignment:**

**Brief Description:**

Course activities which enable students to demonstrate an awareness of major elements of at least one non-US culture or society, and its relationship to the 21st century context. This does not preclude a studied examination of the historical evolution of such issues, or an emphasis on one prominent time period.

**Date/ location on syllabus of assignment:**

**Brief Description:**

Course activities which enable students to demonstrate an understanding of how local features (economic, cultural, social, political and religious) of urban or rural communities, ethnicities, nations and regions are often linked to global trends, tendencies, and characteristics that mutually shape one another.

**Date/ location on syllabus of assignment:**

**Brief Description:**



Evidence that this course's learning environment encourages students to actively learn about, and gain understanding of, at least two of the following:

- social, cultural, and institutional change;
- civic engagement;
- regional, national or cross-national comparisons;
- power and resistance.

**Date/ location on syllabus  
of such evidence:**

**Brief Description:**

An assignment, constituting a minimum of 15% of the course grade, which can be submitted as an artifact of the above set of six student learning outcomes.

**Date/ location on syllabus  
of such an assignment:**

**Brief Description:**

The non-US focus constitutes at least 50% of the course.

**Brief Description:**

Palpable evidence that students make effective use of library facilities or information sources, when applicable, in order to demonstrate information literacy in the exploration of the course's major thematic foci.

**Date/ location on syllabus  
of such an assignment:**

**Brief Description:**

**Reviewer's Comments:**

**Administration Use Only**

**OBJID**



**STEM**  
**HON 152-xxx “Subtitle”**  
**Fall 2020**  
**Meeting Pattern**  
**Meeting Location**

**Lewis Honors College Pledge of Excellence:** *As a member of the University of Kentucky Lewis Honors College, I dedicate myself to intellectual inquiry, life-long learning, and critical thinking. I pledge to demonstrate personal and academic integrity both in and outside of the classroom. I pledge to always be willing to engage my peers in earnest and respectful discussion with an open mind.*

Instructor:

Office Hours:

Office Address:

Include your preferred method for students to contact you.

Office Phone:

Email:

### Course Description for the Bulletin

HON 152 Honors STEM (Subtitle required). 3 credits. Honors STEM courses vary in topic by professor and are announced prior to course registration. These courses engage students in the scientific process within a given STEM topic, emphasizing scientific methods and fundamental scientific principles within a societal context and employing interdisciplinary approaches. These courses feature elements of Honors pedagogy such as classroom discussion, engagement with peer-reviewed literature, and active participation in the research process (including data collection and analysis, and/or extensive literature review and synthesis). May be repeated up to six credits under a different subtitle. This course fulfills UK Core requirement for Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences. Prereq: Lewis Honors students only.

### Course Description (including guiding questions)

*This course description will also be used on the Honors Course Description PDF. Guiding questions should be 4-5 broad, thematic questions that students will be asked to consider when working through course material. These questions can also demonstrate the style of deep thinking that will be required in your course.*

### UK Core Student Learning Outcomes

This course satisfies the UK Core [Intellectual Inquiry in the Natural/Physical/Mathematical Sciences](#) requirement.

By the end of the course, students should be able to:

- Describe methods of inquiry that lead to scientific knowledge and distinguish scientific fact from pseudoscience.
- Explain fundamental principles in a branch of science.
- Apply fundamental principles to interpret and make predictions in a branch of science.
- Demonstrate an understanding of at least one scientific discovery that changed the way scientists understand the world.
- Give examples of how science interacts with society.
- Conduct a hands-on project using scientific methods to include design, data collection, analysis, summary of the results, conclusions, alternative approaches, and future studies.
- Recognize when information is needed and demonstrate the ability to find, evaluate and use effectively sources of scientific information. Required Materials

## Required Materials

*Provide an overview of the textbooks, etc that are required or suggested for the course.*

## Activities and Assignments

*Provide a short summary of the different components of your assignments. For example, a short description of exams, assignments. Students should be able to determine what they will be required to do from this description.*

## Tentative Course Schedule

*A linear listing of topics, assignment due dates, and examination dates.*

## Class Participation

*This is imperative if you are using participation in your grading scheme.*

## Classroom Conduct

Cell phones should be silent (no talking or texting) during class. *You're welcome to include additional expectations for your course.*

## Submission of Assignments

*Describe expectations for assignment submissions. Paper vs online. Late penalties, other requirements.*

## Grading Distribution

Final grades will be basis on the following distribution: *For example, Quizzes (~10) 25%, Midterm 15%; Final Exam 20%, Final Project 40%.*

## Midterm Grades

Mid-term grades will be posted in myUK by the deadline established in the [UK Academic Calendar](#).

## Final Exam

Final exams will be given based on the [UK Final Exam Schedule](#).

## Grading Scale

Final grades will be assigned as follows: *For example, 90-100 A, 80-89 B, 70-79 C, 60-69 D, 59 and below E.*

## Specific details about the attendance policy for this course

*Clearly spell out any specific attendance policies for the course. These policies must agree with the Senate's attendance policies, but should include additional details for the students to understand how work can be made up for excused absences. If participation is a part of the student's final grade, please provide specific details about how participation can be made up for excused absences.*

## Sections Required by UK

### Excused Absences (Senate Rules 5.2.4.2)

Senate Rules 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) significant illness, (b) death of a family member, (c) trips for members of student organizations sponsored by an educational unit, trips for University classes, and trips for participation in intercollegiate athletic events, (d) major religious holidays, (e) interviews for graduate/professional school or full-time employment post-graduation, and (f) other circumstances found to fit “reasonable cause for nonattendance” by the instructor of record. Students should notify the professor of absences prior to class when possible.

If a course syllabus requires specific interactions (e.g., with the instructor or other students), in situations where a student’s total EXCUSED absences exceed 1/5 (or 20%) of the required interactions for the course, the student shall have the right to request and receive a "W," or the Instructor of Record may award an “I” for the course if the student declines a “W.” (Senate Rules 5.2.4.2.1)

(If an attendance/interaction policy is not stated in the course syllabus or the policy does not include a penalty to the student, the Instructor cannot penalize the student for any unexcused absences.)

### Verification of Absences (Senate Rules 5.2.4.2.1 - 6)

Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request appropriate verification when students claim an excused absence due to: significant illness; death in the household, trips for classes, trips sponsored by an educational unit and trips for participation related to intercollegiate athletic events; and interviews for full-time job opportunities after graduation and interviews for graduate and professional school. (Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.)

### Religious Observances (Senate Rules 5.2.4.2.4)

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays. Please check the course syllabus for the notification requirement. If no requirement is specified, two weeks prior to the absence is reasonable and should not be given any later. Information regarding major religious holidays may be obtained through [the Ombud’s website](#) or calling 859-257-3737.

### Make-Up Work (Senate Rule 5.2.4.2)

Students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The instructor must give the student an opportunity to make up the work and/or the exams missed due to the excused absence, and shall do so, if feasible, during the semester in which the absence occurred. The instructor shall provide the student with an opportunity to make up the graded work and may not simply calculate the student's grade on the basis of the other course requirements, unless the student agrees in writing.

### Accommodations Due to Disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. Visit the [DRC website](#), [email the DRC](#), contact them by phone at (859) 257-2754, or visit their office on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407.

### Non-Discrimination Statement and Title IX Information

UK is committed to providing a safe learning, living, and working environment for all members of the University community. The University maintains a comprehensive program which protects all members from discrimination, harassment, and sexual misconduct. For complete information about UK’s prohibition on discrimination and harassment on aspects such as race, color, ethnic origin, national origin, creed, religion, political belief, sex, and sexual orientation, please see [the electronic version of UK’s Administrative Regulation](#)

[6:1 \(“Policy on Discrimination and Harassment”\)](#) . In accordance with Title IX of the Education Amendments of 1972, the University prohibits discrimination and harassment on the basis of sex in academics, employment, and all of its programs and activities. Sexual misconduct is a form of sexual harassment in which one act is severe enough to create a hostile environment based on sex and is prohibited between members of the University community and shall not be tolerated. For more details, please see [the electronic version of Administrative Regulations 6:2 \(“Policy and Procedures for Addressing and Resolving Allegations of Sexual Assault, Stalking, Dating Violence, Domestic Violence, and Sexual Exploitation”\)](#). Complaints regarding violations of University policies on discrimination, harassment, and sexual misconduct are handled by the Office of Institutional Equity and Equal Opportunity (IEEO), which is located in 13 Main Building and can be reached by phone at (859) 257-8927. You can also visit [the IEEO’s website](#).

Faculty members are obligated to forward any report made by a student related to IEEO matters to the Office of Institutional Equity and Equal Opportunity. Students can *confidentially* report alleged incidences through the Violence Intervention and Prevention Center, Counseling Center, or University Health Services.

### Academic Integrity– Prohibition on Plagiarism (Senate Rules 6.3.1)

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the [Code of Student Rights and Responsibilities](#). Complete information can be found on the [Academic Ombud](#) page. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

*Senate Rule 6.3.1* (see current [Senate Rules](#)) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be, except under specific circumstances (e.g. Writing Center review or peer review) allowed by the Instructor of Record or that person’s designee. Plagiarism may also include double submission, self-plagiarism, or unauthorized resubmission of one’s own work, as defined by the instructor.

Students may discuss assignments among themselves or with an instructor or tutor, except where prohibited by the Instructor of Record (e.g. individual take-home exams). However, the actual work must be done by the student, and the student alone, unless collaboration is allowed by the Instructor of Record (e.g. group projects).

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

### **Academic Integrity – Prohibition on Cheating (Senate Rules 6.3.2)**

Cheating is defined by its general usage. It includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade. The fact that a student could not have benefited from an action is not by itself proof that the action does not constitute cheating. Any question of definition shall be referred to the University Appeals Board.

### **Academic Integrity – Prohibition on Falsification/Misuse of Academic Records (SR 6.3.3)**

Maintaining the integrity, accuracy, and appropriate privacy of student academic records is an essential administrative function of the University and a basic protection of all students. Accordingly, the actual or attempted falsification, theft, misrepresentation or other alteration or misuse of any official academic record of the University, specifically including knowingly having unauthorized access to such records or the unauthorized disclosure of information contained in such records, is a serious academic offense. As used in this context, "academic record" includes all paper and electronic versions of the partial or complete permanent academic record, all official and unofficial academic transcripts, application documents and admission credentials, and all academic record transaction documents. The minimum sanction for falsification, including the omission of information, or attempted falsification or other misuse of academic records as described in this section is suspension for one semester.