Please attach/submit additional documents as needed to fully complete each section of the form.

**COURSE INFORMATION**

Department: **Computer Science**  
Course Number: **CSCI 315E**  
Course Title: **Computers, Ethics, and Society**

Type of Request:  
- New  
- One-time Only  
- Renew*  
- Change  
- Remove

Rationale: **Continue to teach popular course**

*If course has not changed since the last review and is taught by the same tenure-track faculty member, you may skip sections III-V.

**JUSTIFICATION FOR COURSE LEVEL**

Normally, general education courses will not carry pre-requisites, will carry at least 3 credits, and will be numbered at the 100-200 level. If the course has more than one pre-requisite, carries fewer than three credits, or is upper division (numbered at the 300 level or above), provide rationale for exception(s).

Requires University approved lower-division writing course as this is an advanced writing course. Course requires writing and speaking experience and maturity at the junior level or above to succeed at the multiple writing assignments, presentation, and ethics bowl debate. The course uses the Socratic method where students must comprehend course materials prior to class meetings and then, without prior notification, called upon to lead discussion and apply material to fact patterns.

**ADDITIONAL INFORMATION (FOR OCHE DATABASE):**

In which **MUS Core Category**, does this course fit? **Ethics, Humanities, & Communication**.  
Does the course include content regarding cultural heritage of American Indians? **No**.

**II. ENDORSEMENT / APPROVALS**

* Instructor: **Dr. Joel Henry**  
243-2218 / henryj@cs.umt.edu:  
Signature _______________________ Date__________

Program Chair: **Andrew Ware**  
Signature _______________________ Date__________

Dean: **Chris Comer**  
Signature _______________________ Date__________

*Form must be completed by the instructor who will be teaching the course. If the instructor of the course changes before the next review, the new instructor must be provided with a copy of the form prior to teaching the course.

**III. DESCRIPTION AND PURPOSE**

General Education courses must be introductory and foundational within the offering department or within the General Education Group. They must emphasize breadth, context, and connectedness; and relate course content to students’ future lives: See **Preamble**.

In this class, students learn about ethical problems that computer scientists face, the codes of ethics of
computing professional societies, legal issues involved in technology, and the social implications of computers, computing, and other digital technologies. During this class, students will:

1. Understand, identify, and apply different ethical philosophies, frameworks, and methodologies.
2. Identify and interpret the codes of professional conduct relating to the disciplines of computer science and software engineering.
3. Analyze the local and global impact of computing on individuals, organizations, and society.
4. Understand and apply the concepts and principles of moral thinking to problems relating to computing and digital technologies.
5. Improve your skills writing argumentative essays and pieces, and in critical thinking, analysis, and presentation.
6. Become familiar with a number of noteworthy essays written by influential researchers in the field of cyberethics.

IV. CRITERIA

BRIEFLY EXPLAIN HOW THIS COURSE MEETS THE CRITERIA FOR THE GROUP.

1. Courses focus on one or more of the specific traditions of ethical thought (either Western or non-Western), on basic ethical topics such as justice or the good life as seen through the lens of one or more traditions of ethical thought, or on a professional practice within a particular tradition of ethical thought.

Students learn multiple ethical frameworks and then must apply the frameworks to a wide variety of technical fact patterns drawn from the topic list on the syllabus and discussed in the required textbook. Application of the frameworks takes place through a class presentation with a supporting short paper, a persuasive essay that must be revised once, and through a three hour debate where students work in teams debating other student teams, with external judges providing evaluation and feedback.

2. Courses provide a rigorous analysis of the basic concepts and forms of reasoning which define the traditions, the ethical topics, or the professional practices that are being studied.

Students must consider basic technology as well as advanced and future technology under multiple ethical viewpoints – deontology, consequentialism, just consequentialism, and more. Formal ethical standards from professional organizations are also considered, including IEEE, ACM, and ACEDS, which all apply to their future technical professions.

V. STUDENT LEARNING GOALS

BRIEFLY EXPLAIN HOW THIS COURSE WILL MEET THE APPLICABLE LEARNING GOALS.

1. Correctly apply the basic concepts and forms of reasoning from the tradition or professional practice they studied to ethical issues that arise within those traditions or practices.

The course requires presentation of arguments for and against professional situations presented as fact patterns. Students must debate both sides of an argument and consider how they would make decisions within a commercial technical environment. Technologists often have the tools and knowledge to cross ethical boundaries without being caught – those situations present interesting ethical challenges.

2. Analyze and critically evaluate the basic concepts and forms of reasoning from the tradition or professional practice they studied.
Students must apply both ethical frameworks and ethical standards from professional organizations to fact patterns they will likely encounter in their careers. Students also consider futuristic technical advancements in the area of data privacy and security, data science impacts on consumers, driverless cars, and much more.

VI. ASSESSMENT

A. HOW ARE THE LEARNING GOALS FOR THE GENERAL EDUCATION GROUP MEASURED?

Describe how you will determine that students have met each of the General Education Learning Goals. This should include specific examples of assignments, rubrics or test questions that directly measure the General Education learning goals. (See Example)

Please attach or provide a web link to relevant assessment materials.

1. Correctly apply the basic concepts and forms of reasoning from the tradition or professional practice they studied to ethical issues that arise within those traditions or practices.

Course learning goals
Upon completion of an Ethical and Human Values course, students will be able to:
1. correctly apply multiple ethical frameworks and professional ethical standards they studied to technical ethical issues that arise within their chosen profession;
2. analyze and critically evaluate the multiple ethical frameworks and professional ethical standards to the professional practice studied in the course.

These course goals are identical to the general education goals for ethics.

Method of assessment
The Association of American Colleges and Universities has developed a rubric for assessing ethical reasoning abilities. The rubric has two different areas of assessment that correspond to the two learning goals associated with Ethical and Human Values courses at the University of Montana.

Application of ethical concepts (learning goal 1):
- Capstone 4: Student can independently apply ethical frameworks and professional ethical standards to an ethical question, accurately, and is able to consider full implications of the application.
- Milestone 3: Student can independently (to a new example) apply ethical frameworks and professional ethical standards to an ethical question, accurately, but does not consider the specific implications of the application.
- Milestone 2: Student can apply ethical frameworks and professional ethical standards to an ethical question, independently (to a new example) and the application is inaccurate.
- Benchmark 1: Student can apply ethical frameworks and professional ethical standards to an ethical question with support (using facts and arguments based upon these facts when leading the class, presenting to the class, writing a persuasive writing, participating in a debate, and completing an essay final exam) but is unable to apply ethical perspectives/concepts independently (to a new example).

Evaluation of ethical concepts (learning goal 2):
- Capstone 4: Student cites facts, builds an argument, and concludes with a position on an ethical question and can state the objections to, assumptions and implications of and can reasonably defend against the objections to, assumptions and implications of different ethical perspectives/concepts, and the student’s defense is adequate and effective.
- Milestone 3: Student cites facts, builds an argument, and concludes with a position on an ethical question and can state the objections to, assumptions and implications of and responds to the objections to assumptions and implications of different ethical perspectives/concepts, but the student’s response is inadequate.
- Milestone 2: Student states a position and can state the objections to, assumptions and implications of different ethical perspectives/concepts but does not respond to them (and ultimately objections, assumptions, and implications are moralized by student’s unique view and do not affect student’s position.)
- Benchmark 1: Student states a position but cannot support the position with facts or arguments based on facts, and cannot state the objections to and assumptions and limitations of the different perspectives/concepts.

Over the course of the presentation and the final draft of the long paper, each of the different areas of assessment were probed twice. Only data from students that completed both were included in the findings.
Findings and assessment of findings

First Assessment of learning goal 1:
5/31 scored below the benchmark, 11/31 scored at milestone 2, 6/31 scored at milestone 3, and 9/31 scored at the capstone level.

First Assessment of learning goal 2:
1/31 scored below the benchmark, 17/31 scored at milestone 2, 8/31 scored at milestone 3, and 5/31 scored at the capstone level.

Student presentation assignment: Students are assigned a specific topic within Technical\Cyber Ethics and then give a presentation to the class which includes a fact pattern for debate. They must think on their feet as the debate may go in any direction. They must also write a persuasive paper on a specific technology involving ethics and argue for a specific outcome, policy, law, or action.

These assignments are carefully graded with the attached rubrics.

Analyze and critically evaluate the basic concepts and forms of reasoning from the tradition or professional practice they studied

Students need more feedback between the presentation, and accompanying paper, and the final version of the long paper so that they can better integrate lessons learned.

A General Education Assessment Report will be due on a four-year rotating cycle. You will be notified in advance of the due date. This will serve to fulfill the University’s accreditation requirements to assess general education and will provide an opportunity to connect with your colleagues across campus and share teaching strategies. Items VI.B- D will be helpful in compiling the report.

B. ACHIEVEMENT TARGETS
[This section is optional. Achievement targets can be reported if they have been established.]
Describe the desirable level of performance for your students, and the percentage of students you expected to achieve this:

1.

2.

3.

C. ASSESSMENT FINDINGS
[This section is optional. Assessment findings can be reported if they are available.]

What were the results/findings, and what is your interpretation/analysis of the data? [Please be detailed, using specific numbers/percentages when possible. Qualitative discussion of themes provided in student feedback can also be reported. Do NOT
use course grades or overall scores on a test/essay. The most useful data indicates where students’ performance was stronger and where it was weaker. Feel free to attach charts/tables if desired.)

D. ASSESSMENT FEEDBACK

Given your students’ performance the last time the course was offered, how will you modify the course to enhance learning? You can also address how the course could be improved, and what changes in the course content or pedagogy you plan to make, based upon on the findings. Please include a timeframe for the changes.
A General Education Assessment Report will be due on a four-year rotating cycle. You will be notified in advance of the due date. This will serve to fulfill the University’s accreditation requirements to assess general education and will provide an opportunity to connect with your colleagues across campus and share teaching strategies.

VII. SYLLABUS AND SUBMISSION

Please submit syllabus in a separate file with the completed and signed form to the Faculty Senate Office, UH 221. The learning goals for the Ethics Group must be included on the syllabus. An electronic copy of the original signed form is acceptable.