LSC Use Only Proposal No:	*UWUCC Use Only* Proposal No: 11-125c.
LSC Action-Date: AP-3/22/12	UWUCC Action-Date: AP-4/3/12 Senate Action Date: App-4/17/12

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person(s) **John Woolcock**	Email Address **woolcock@iup.edu**
Proposing Department/Unit **Chemistry**	Phone 7-4828

Check all appropriate lines and complete all information. Use a separate cover sheet for each course proposal and/or program proposal.

1. Course Proposals (check all that apply)

_____ New Course _____ Course Prefix Change _____ Course Deletion

__X__ Course Revision _____ Course Number and/or Title Change __X__ Catalog Description Change

Current course prefix, number and full title: CHEM 105 The Forensic Chemistry of CSI

Proposed course prefix, number and full title, if changing:

2. Liberal Studies Course Designations, as appropriate

__X__ This course is also proposed as a Liberal Studies Course (please mark the appropriate categories below)

_____ Learning Skills __X__ Knowledge Area _____ Global and Multicultural Awareness _____ Writing Intensive (include W cover sheet)

_____ Liberal Studies Elective (please mark the designation(s) that applies – must meet at least one)

_____ Global Citizenship _____ Information Literacy _____ Oral Communication

_____ Quantitative Reasoning _____ Scientific Literacy _____ Technological Literacy

3. Other Designations, as appropriate

_____ Honors College Course _____ Other: (e.g. Women's Studies, Pan African)

4. Program Proposals

_____ Catalog Description Change _____ Program Revision _____ Program Title Change _____ New Track

_____ New Degree Program _____ New Minor Program _____ Liberal Studies Requirement Changes _____ Other

Current program name:

Proposed program name, if changing:

5. Approvals	Signature	Date
Department Curriculum Committee Chair(s)		2/23/12
Department Chairperson(s)		2/23/12
College Curriculum Committee Chair		3/9/12
College Dean		2/12/12
Director of Liberal Studies (as needed)		3/26/12
Director of Honors College (as needed)		
Provost (as needed)		
Additional signature (with title) as appropriate		
UWUCC Co-Chairs	Gail S Sechrist	4/4/12

Received APR 4 2012 Liberal Studies

Received MAR 26 2012 Liberal Studies

Received MAR 12 2012 Liberal Studies

CHEM 105: The Forensic Chemistry of CSI
Summary of Changes

1. Revised the course objectives to include EUSLO's
2. Revised the detail course outline by removing the topics: Fingerprints, Questioned Documents and Firearms and then expanding the time spent on the remaining topics. The 5 total hours that were assigned to these topics represent 14% of the course material in the original syllabus.
3. Revised the point values for the Evaluation items to parallel those used currently in the course.
4. Revised the Required test to cite the new edition (2nd) of the textbook.
5. Revised the Supplementary text to one that is web-based so that only the essential chapters can be downloaded as PDF files.
6. Revised the Bibliography to cite more recent sources.
7. Revised the answers to the Liberal Studies Questions in cite the most recent edition of the text and the sources for the fiction report.
8. Revised the Course Analysis Questionnaire to note in A.3 that the most recent enrollments are 85, in C.1 that the course is now part of the regular course offerings in Chemistry and C.2 that additional resources are no longer required.
9. Included the student instructions and grading rubric for the Fiction Report assignment that is linked to Objective #3.

CHEM 105: The Forensic Chemistry of CSI Syllabus of Record

I. Catalog Description

The Forensic Chemistry of *CSI* (3c-0l-3cr)

Topics will include the forensic analysis of drugs, fibers, glass, arson, and other types of physical evidence. Chemical concepts, on the level of an introductory chemistry course and their applications to forensic science will also be explored. Other topics will include how forensic science is portrayed in novels, movies, computer games and TV and the methods used in forensic evidence collection at a crime scene. This course cannot be used to fulfill the requirements for a CHEM major or minor.

II. Course Objectives: Upon completion of this course, students will be able to:

Objective 1:

Apply the basic concepts of chemistry to topics in forensic science including: examining a crime scene and collecting evidence, forensic analysis of drugs, fibers, glass, arson and other types of evidence.

Expected Student Learning Outcomes 1 & 2:

Informed and Empowered Learners.

Rationale:

Exams, in-class activities and assigned problems will determine whether students have learned the concepts and principles of crime scene investigations, rules of evidence and analysis of forensic evidence. The exams, in-class activities and assigned problems will also test student's ability to apply these concepts and principles to solve problems in the analysis of forensic evidence.

Objective 2:

Describe chemical concepts, apply chemical rules and solve chemical problems related to the characteristics of matter, the periodic table, scientific measurements, basic atomic theory and electron structure, ionic and covalent compounds, basic reactions, solutions, structure of covalent compounds and organic chemistry.

Expected Student Learning Outcomes 1 & 2:

Informed and Empowered Learners

Rationale:

Exams, in-class activities and assigned problems will determine whether students have learned the basic concepts and principles of chemistry that are directly related to the topics in forensic science presented in the course. The exams, in-class activities and assigned problems will also test student's chemistry problem solving skills.

Objective 3:

Describe how forensic science is portrayed in fiction, compare that to the forensic science presented in the text and analyze how this is related to the CSI effect.

Expected Student Learning Outcomes 2 & 3:

Empowered and Responsible Learners.

Rationale: In class activities where CSI episodes are shown and the fiction report assignment will have students critically review the way forensic science is portrayed in the media as

compared to how it works in the real world. They will then examine how this comparison is linked to the "CSI Effect". The CSI effect is the belief that watching TV shows such as CSI raises the expectations that jurors and the public have about the value and impact of forensic evidence on criminal trials and investigations.

III. Detailed Course Outline: (1 hour = 50 minutes or one "academic hour")

1. Introduction to Forensic Science and Investigating *CSI* (1.5 hours)
- a. Forensic Science: fact and fiction
- b. The *CSI* Effect

2. Investigating the Crime Scene (3.0 hours)
- a. Securing & documenting the crime scene
- b. Collection, preservation, inventory and transportation of evidence
- c. Chain of custody and legal dimensions of evidence

3.Investigating and Processing Physical Evidence (4.5 hours)
- a. The modern crime lab and functions of a forensic scientist
- b. Characteristics of physical evidence
- c. Crime scene reconstruction

4. **Physical Properties: Forensic Characterization of Soil (3.0 hours)**
- a. Physical and chemical properties of substances
- b. The metric system, measurements and conversion factors
- c. Accuracy, precision and significant figures
- d. Forensic characteristics of soil

5.**Exam #1 (1.5 hours)**

6. Forensic Analysis of Glass (1.5 hours)
- a. Types of glass
- b. Physical and optical properties of glass
- **c.** Glass fractures

7. The Microscope and Forensic Identification of Hair and Fibers (3.0 hours)
- a. Types of microscopes
- b. Forensic applications of microscopy: hair
- c. Forensic applications of microscopy: fibers

8.Inorganic Analysis: Forensic Determination of Metals and Gunshot Residue (4.5 hours)
- a. Atomic Theory and Structure
- **b.** Electron Structure and Orbitals
- **c.** Electron Configurations
- **d.** Atomic Spectroscopy and forensic determination of metals
- e. Gunpowder residues

9. **Exam #2 (1.5 hours)**

10. Ionic, Covalent and Organic Compounds (5 hours)
- a. Names and formulas of ionic and covalent compounds
- b. Lewis structures of covalent compounds, VSEPR, polar bonds
- **c.** Introduction to organic chemistry and functional groups

11. Arson (3.75 hours)
- a. The chemistry of fire, combustion and factors that influence its intensity
- b. Hydrocarbon accelerants

c. Determining the origin and cause of a fire
d. Indicators of arson and collection of evidence
e. Analysis of flammable residue

12. Drugs of Abuse (3.75 hours)

a. History of drug regulation and drug dependence
b. Narcotics, hallucinogens, depressants, stimulants, inhalants, club drugs and steroids
c. Identification of drugs using presumptive and confirmatory tests
d. Poisons

13. Exam #3 (1.25 hours)
14. Course Wrap Up (1.25 hours)
15. Final Exam (2 hours)

IV. Evaluation Methods:

Exams	300 points
Assigned exercises (problem strategies)	60 points
Report on a fiction book, video or computer game	70 points
In-class activities (worksheets, demonstrations, etc.)	60 points
Class Participation (Good Questioner Points)	10 points
Total	500 points

The exams will consist of a section of multiple choice, short-answer questions and word problem/short essay questions. There are 4 exams, including the final, each worth 100 points. The top three exams scores will be used to determine the final grade. The exercises and in-class activities will parallel the types of questions used on exams. The fiction report will focus on linking specific aspects of the forensic science to fictional portrayals of forensic science in books, TV movies or computer games. Examples possible sources for the fiction report are given in the bibliography. The final exam period will include a comprehensive exam covering all topics presented during the semester. Good questioner points: students will be given 2 points for each event judged eligible up to a maximum of 5 events for the semester for a total of 10 points. These can be obtained by asking a question in class, coming to office hours, asking a question by e-mail, by telephone, etc. The eligibility of questions are judged by the instructor but are generally not accepted for ones such as "What is the homework assignment?" or "Can you give me the answer for question 1?"

V. Example Grading Scale: The MAXIMUM percentages that will be used to determine the final grade are:

100-90%	A	(500-450 points)
89-80%	B	(449-400 points)
79-70%	C	(399-350 points)
69-60%	D	(349-300 points)
59% or lower	F	(299-0 points)

VI. Attendance Policy:

The attendance policy for this course will be consistent with the Undergraduate Course Attendance Policy in the IUP Catalog.

VII. Required & Supplementary Textbook(s):

1. **Required Text:** *Criminalistics: Forensic Science, Crime and Terrorism, Second Edition* James E. Girard, Jones & Bartlett, Sudbury, MA (2011). This is a chemistry oriented non-science majors textbook that covers a wide variety of forensic science topics.

2. **Supplementary Text:** *An Introduction to Chemistry*, M. Bishop, (Atoms First Edition) Chiral Publishing Company: http://preparatorychemistry.com/. This is a self-published web-based text. which is used to provide additional material on chemistry topics such as classification of matter, atomic structure, scientific measurements, chemical compounds and organic chemistry.

3. Supplementary Non-textbook Reading: *Investigating CSI: An Unauthorized Look Inside the Crime Labs of Las Vegas, Miami and New York*, Donn Cortez, Editor, BenBella Books, Dallas, TX (2006). This book contains a variety of essays about the characters and production of the *CSI* TV series, the differences between TV and real life crime scene investigation, the impact of *CSI* series on popular culture and synopses of *CSI* episodes. This book was selected to support the forensic fiction report.

VIII. Special Resource Requirements:

None

IX. Bibliography:

1. *Body of Evidence* by Patricia Cornwell, Pocket Books (2004)
2. *Bones*, Season 1-7 (2005-20012)
3. *Criminalisitics: An Introduction to Forensic Science,* R. Saferstein, 10th ed., Prentice-Hall, Upper Saddle River (2011)
4. *CSI: 3 Dimensions of Murder and CSI 4: Hard Evidence*, Ubisoft (2006-2007)
5. *CSI: Crime Scene Investigations*, Season 1-12 (2000-2012)
6. *CSI: Miami*, Season 1-10 (2002-2012)
7. *CSI: NY*, Season 1-8 (2003-2012)
8. *Deja Dead* by Kathy Reichs. Pocket Star Books (1998)
9. *Forensic Science: Fundamentals & Investigations* Anthony J. Bertino, Cengage Learning, Mason OH (2008).
10. *Introduction to Forensic Science & Criminalisitics*, R. E. Gaensslen, Howard A Harris and Henry Lee, McGraw-Hill, New York (2008)

11. *Investigating Chemistry,* Matthew Johll, 2nd Edition. W. H. Freeman: New York (2009)

12. *Media and Criminal Justice: The CSI Effect*, Dennis J. Stevens, Jones and Bartlett, New York (2011)

13. *NCIS,* Season 1-9 (2003-2012)

14. *Sherlock Holmes: The Complete Novels and Stories*, by Sir Arthur Conan Doyle, Bantam Classics (1986)

15. *The Bone Collector* by Jeffrey Deaver, Coronet Books (1997)

16. *The CSI: NY Virtual Experience in Second Life*, http://www.cbs.com/primetime/csi_ny/second_life

On a separate sheet of paper, please answer these questions. (Do not include this sheet or copies of the questions in your proposal; submit only the answers.)

A. This is not a multi-section, multi-instructor course.

B. The incorporation of women and minorities in the course will largely be through the forensic case studies used throughout the course. In the text *Criminalisitics: Forensic Science, Crime and Terrorism* the following case studies in the sections entitled *On the Crime Scene*, focus on minorities and women as perpetrators or victims of crime: Jon Benet Ramsey (Chapter 1), O.J. Simpson (Chapter 1), Enrique Camarena Salazar (Chapter 2), Rebecca O'Connell (Chapter 3), Kristen Lea Harrison (Chapter 4), Emilita Reeves (Chapter 8), Joann Curley (Chapter 9), Earl Washington, Jr. (Chapter 14).

C. Included in the syllabus is a report in which students will be asked to read a work of fiction or view one fictional representation forensic science from TV, movies or a computer game. The students will report on their reading or viewing of the work of fiction and in a report discuss on how chemistry and forensic is portrayed. In the bibliography, the following non-textbook sources will be used in lectures and as the basis for this report. Also as part of some lectures portions of *CSI: Crime Scene Investigation* episodes related to a specific topic will be shown to illustrate how accurately or inaccurately chemistry and forensics science are portrayed.

1. *Body of Evidence* by Patricia Cornwell, Pocket Books (2004)
2. *Bones*, Season 1-7 (2005-20012)
3. *CSI: 3 Dimensions of Murder and CSI 4: Hard Evidence*, Ubisoft (2006-2007)
4. *CSI: Crime Scene Investigations*, Season 1-12 (2000-2012)
5. *CSI: Miami*, Season 1-10 (2002-2012)
6. *CSI: NY*, Season 1-8 (2003-2012)
7. *Deja Dead* by Kathy Reichs. Pocket Star Books (1998)
8. *NCIS*, Season 1-9 (2003-2012)
9. *Sherlock Holmes: The Complete Novels and Stories*, by Sir Arthur Conan Doyle, Bantam Classics (1986)
10. *The Bone Collector* by Jeffrey Deaver, Coronet Books (1997)
11. *The CSI: NY Virtual Experience in Second Life*, http://www.cbs.com/primetime/csi_ny/second_life

D. This course applies the basic concepts of chemistry to the study of forensic science. The chemistry topics included in this course are presented at a level that requires no previous chemistry course. As stated in the preface of the required text *Criminalisitics: Forensic Science, Crime and Terrorism*, "It places forensic science within the framework of the basic principles of chemistry, biology and physics and assumes the reader has little or no scientific background."

Course Analysis Questionnaire

Section A: Details of the Course

A1 How does this course fit into the programs of the department? For what students is the course designed? (majors, students in other majors, liberal studies). Explain why this content cannot be incorporated into an existing course.

This course is intended for students in any major who are interested in Chemistry as it applies to forensic science. While the chemistry concepts in this course are taught in other introductory chemistry courses, their specific application to forensic science is unique. There is no other Liberal Studies non-laboratory chemistry course in the Chemistry department. This course cannot be used to meet the requirements of a CHEM major or minor.

A2 Does this course require changes in the content of existing courses or requirements for a program? If catalog descriptions of other courses or department programs must be changed as a result of the adoption of this course, please submit as separate proposals all other changes in courses and/or program requirements.

No. This course does not significantly overlap any existing courses or requirements for a degree program.

A3 Has this course ever been offered at IUP on a trial basis (e.g. as a special topic) If so, explain the details of the offering (semester/year and number of students).

This course was offered as CHEM 281 in Spring 2006 by Ruiess Ramsey, who has since retired, and by John Woolcock in Spring 2007 and 2008. The enrollment increased from 14 (2006) to 20 (2007) to 43 (2008). Also, during the semesters that CHEM 281 was offered we obtained Liberal Studies approval for this course to count as a non-laboratory science course. Since its approval as a regular course offering the enrollment in CHEM 105 has grown to 85.

A4 Is this course to be a dual-level course? If so, please note that the graduate approval occurs after the undergraduate.

No, this is not a dual-level course.

A5 If this course may be taken for variable credit, what criteria will be used to relate the credits to the learning experience of each student? Who will make this determination and by what procedures?

This course has no variable credit.

A6 Do other higher education institutions currently offer this course? If so, please list examples (institution, course title).

Yes.

1. **Ursinis College, Chemistry 102, Dr. Tortorelli, *Introduction to Forensic Chemistry***

2. **Westminister College, Sci 150, Helen Boylan, *Introduction to Forensic Science***
3. **Bloomsburg University of PA, CHEM 52.105, Michael Pugh, *Introduction to Forensic Science***

A7 Is the content, or are the skills, of the proposed course recommended or required by a professional society, accrediting authority, law or other external agency? If so, please provide documentation.

No, the content of this course is not required by any external agency, professional society or accrediting authority.

Section B: Interdisciplinary Implications

B1 Will this course be taught by instructors from more than one department? If so, explain the teaching plan, its rationale, and how the team will adhere to the syllabus of record.

No, this course will have only one instructor.

B2 What is the relationship between the content of this course and the content of courses offered by other departments? Summarize your discussions (with other departments) concerning the proposed changes and indicate how any conflicts have been resolved. Please attach relevant memoranda from these departments that clarify their attitudes toward the proposed change(s).

There is no significant overlap with courses from any other department.

B3 Will this course be cross-listed with other departments? If so, please summarize the department representatives' discussions concerning the course and indicate how consistency will be maintained across departments.

No, this course will not be cross-listed.

B4 Will seats in this course be made available to students in the School of Continuing Education?

Yes, seats can be made available as needed.

Section C: Implementation

C1 Are faculty resources adequate? If you are not requesting or have not been authorized to hire additional faculty, demonstrate how this course will fit into the schedule(s) of current faculty. What will be taught less frequently or in fewer sections to make this possible? Please specify how preparation and equated workload will be assigned for this course.

Yes, the course has been incorporated in the regular course offerings of the Chemistry Department.

C2 What other resources will be needed to teach this course and how adequate are the current resources? If not adequate, what plans exist for achieving adequacy?

No additional resources are needed to teach this course.

C3 Are any of the resources for this course funded by a grant? If so, what provisions have been made to continue support for this course once the grant has expired? (Attach letters of support from Dean, Provost, etc.)

No, this course has not been grant funded.

C4 How frequently do you expect this course to be offered? Is this course particularly designed for or restricted to certain seasonal semesters?

This course is offered once a year in the spring semester.

C5 How many sections of this course do you anticipate offering in any single semester?

Only one section will be offered, unless student demand indicates otherwise.

C6 How many students do you plan to accommodate in a section of this course? What is the justification for this planned number of students?

The current enrollment capacity is 86, the maximum seat capacity in Weyandt 208 where it has been scheduled.

C7 Does any professional society recommend enrollment limits or parameters for a course of this nature? If they do, please quote from the appropriate documents.

No, this course has no recommended enrollment limit or other parameters.

C8 If this course is a distance education course, see the Implementation of Distance Education Agreement and the Undergraduate Distance Education Review Form in Appendix D and respond to the questions listed.

This will not be offered as a distance education course.

CHEM 105: The Forensic Chemistry of CSI
Guidelines for Report on a Fiction Book, Video, Computer Game or other Media Source

Each student will select a single work or episode of fiction (book, video or other media) that includes elements of forensic science. This will be done in three stages and revised versions of the first two assignments can be used as parts of the final report.

Assignment #1 (5 points): A week after the first exam returned, you must report and get approval of your fiction selection using this assignment. You must provide the full title, author or source, a one-paragraph explanation of why you chose it and at least one paragraph synopsis of the plot. This can be written in any style or form you want and submitted on paper or by email attachment.

Assignment #2 (5 points): After the second exam is returned, you must submit a summary of at least two types of forensic evidence that were connected to the crime and how and/or why this evidence is linked to the material we learned in class or is presented in the text or lecture notes. You should cite specific pages in the text or portions of the class notes that apply to each type of evidence. This can be written in any style or form you want and submitted on paper or by email attachment.

Assignment #3 (50 points), the final written report will be turned in by no later than the last day of final exam week. The final report should be 3-5 pages and should include each one of the "Focus & Content" and "Style & Mechanics" items listed below. These items will be graded on a 0-5 scale where 5=excellent, 4=very good, 3=good, 2=fair, 1=poor, 0=not included.

To locate episodes of forensic TV shows and movies on broadcast or cable TV, you can use the following web sites: http://www.zap2it.com or http://www.locatetv.com/. These sites often have brief episode guides. You can find a limited number of recent episodes to watch free on most TV network web sites for each show. These also provide episode guides and special features. You can also search for recent episodes on Hulu: http://www.hulu.com. You can also use Netflix or iTunes to rent or purchase episodes of forensic TV shows and movies.

Focus & Content

- An explanation of the reasons why you selected this work of forensic fiction. (5 points)
- A short synopsis of the plot or story. To do this you should describe the initial crime; summarize the major steps in the investigation and the resolution or closing. (10 points)
- Your opinions of the quality of the work. To do this you can describe your opinions of any two of the following: the acting, the believability of the plot, how well the story fits the concept of the show or the characters, the costumes, music or sound effects, special effects, sets and locations, editing of the storylines or other aspects of the work. (5 points)
- Describe at least two types of forensic evidence that were connected to the crime and how this evidence is linked or related to the material we learned about in class or is presented in the text book and/or in lectures. You should cite specific pages in the text or portions of the class notes that apply to each type of evidence. (10 points)
- How this work is related to at least one aspect of the "CSI effect". For example, the requirement of physical evidence by juries, the time and difficulty of doing forensic analysis, the increased knowledge of the public and criminal about how forensic science works, etc. (5 points)

Style & Mechanics

- ❑ The report is neat in appearance with the title and bibliographic information at the top of the first page or on a cover sheet that includes the student's name, the title, publisher or source and year the work was produced and the date the paper was submitted. (5 points)
- ❑ The summary is not plagiarized and does not follow the wording in any book, Internet article or other source. If these sources are used the copied or paraphrased passages MUST BE enclosed with quotation marks and a citation of the source included in parenthesis at the end of the quote. At the end of the paper, a bibliographic citation must be listed for each source. (5 points)
- ❑ The paper is word-processed and either printed on 8 1/2 x 11 inch paper or sent as an MS Word document. There should be no spelling of grammatical errors, the paper should have 1" standard margins and the text should be in 12-point font. (5 points)

Example References:

1. http://en.wikipedia.org/wiki/CSI_Effect access on 01/01/2009 (web site reference)
2. *Investigating Chemistry: A Forensic Science Perspective*, Matthew Johll, W. H. Freeman, New York (2006). (book reference)
3. CSI: NY Season 7, Epsisode 15,title: *Vigilante*, original air date: 02/18/2011. (TVshow reference).

CHEM 105: Grading Checklist for Fiction Report

The final report (40 points) should be no longer than 3-5 pages and include at least one paragraph that addresses the "Focus & Content" the items listed below. These items will be graded on a 0-5 scale where 5=excellent, 4=very good, 3=good, 2=fair, 1=poor, 0=not included.

Focus & Content

- ❑ An explanation of the reasons why you selected this work of forensic fiction. (5 points)
- ❑ A short synopsis of the plot or story. To do this you should describe the initial crime; summarize the major steps in the investigation and the resolution or closing. (10 points)
- ❑ Your opinions of the quality of the work. To do this you can describe your opinions of any two of the following: the acting, the believability of the plot, how well the story fits the concept of the show or the characters, the costumes, music or sound effects, special effects, sets and locations, editing of the storylines or other aspects of the work. (5 points)
- ❑ Describe at least two types of forensic evidence that were connected to the crime and how this evidence is linked to the material presented in the required text and/or in lectures with specific references to class notes or pages in the text. (10 points)
- ❑ How this work is related to at least one aspect of the "CSI effect" (the requirement of physical evidence by juries, the time and difficulty of doing forensic analysis, the increased knowledge of the public and criminal about how forensic science works, etc.) (5 points)

Style & Mechanics

- ❑ The report is neat in appearance with the title and bibliographic information at the top of the first page or on a cover sheet (the student's name, the title, publisher or source and year the work was produced and the date the paper was submitted). (5 points)
- ❑ The summary is not plagiarized and does not follow the wording in any book, Internet article or other source to any great degree. If these sources are used the copied or paraphrased passages MUST BE enclosed with quotation marks and a citation of the source included in parenthesis at the end of the quote: (Johll, p. 265 or wikipedia.org). At the end of the paper, a bibliographic citation must be listed for each source. (5 points)

- The paper is word-processed and either printed on 8 1/2 x 11 inch paper or sent as an MS Word document. There should be no spelling of grammatical errors, the paper should have 1" standard margins and the text should be in 12-point font. (5 points)