New Course Report

1. General Information

1a. Submitted by the College of: COMMUNICATION AND INFORMATION

    Date Submitted: 3/11/2013

1b. Department/Division: Library &Information Science

1c. Contact Person

        Name: Will Buntin

        Email: will.buntin@uky.edu

        Phone: 859-257-3317

      Responsible Faculty ID (if different from Contact)

        Name:

        Email:

        Phone:

1d. Requested Effective Date: Specific Term/Year [1] Fall 2013

1e. Should this course be a UK Core Course? No

2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: ICT 550

2c. Full Title: Security Informatics

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

    LECTURE: x

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 3

2i. Is this course repeatable for additional credit? No

    If Yes: Maximum number of credit hours:

    If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: This course introduces students to policy concerns relating to security informatics, and highlights theoretical and practical approaches to designing secure information and communication technology (ICT) systems. It addresses key issues such as authentication, risk analysis, access control, database and network security, and information assurance.

2k. Prerequisites, if any:

2l. Supplementary Teaching Component:

3. Will this course taught off campus?   No

   If YES, enter the off campus address:

4. Frequency of Course Offering: Summer,

   Will the course be offered every year?:   Yes

   If No, explain:

5. Are facilities and personnel necessary for the proposed new course available?:   Yes

   If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 35

7. Anticipated Student Demand

   Will this course serve students primarily within the degree program?:   Yes

   Will it be of interest to a significant number of students outside the degree pgm?:   No

   If Yes, explain: [var7InterestExplain]

8. Check the category most applicable to this course: Relatively New – Now Being Widely Established,

   If No, explain:

9. Course Relationship to Program(s).

   a. Is this course part of a proposed new program?:   Yes

   If YES, name the proposed new program: Information Communication Technology (ICT)

   b. Will this course be a new requirement for ANY program?:   No

   If YES, list affected programs:

10. Information to be Placed on Syllabus.

   a. Is the course 400G or 500?:   Yes

   b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from **10.a** above) are attached: Yes

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

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 a 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 at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and 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?

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.

8.How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)?

9.Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)?   NO

If no, explain how student 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.

10.Does the syllabus contain all the required components?   NO

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

   Instructor Name:

   SIGNATURE|JTHU222|Jeffrey T Huber|Dept approval for ZCOURSE_NEW ICT 550|20121127

   SIGNATURE|CEMONA2|E C Monaghan|College approval for ZCOURSE_NEW ICT 550|20121127

   SIGNATURE|JMETT2|Joanie Ett-Mims|Undergrad Council approval for ZCOURSE_NEW ICT 550|20121217

   SIGNATURE|ZNNIKO0|Roshan N Nikou|Graduate Council approval for ZCOURSE_NEW ICT 550|20130110

   SIGNATURE|CEMONA2|E C Monaghan|Approval resent to College for ZCOURSE_NEW ICT 550|20130114

   SIGNATURE|ZNNIKO0|Roshan N Nikou|Graduate Council approval for ZCOURSE_NEW ICT 550|20130123

   SIGNATURE|CEMONA2|E C Monaghan|Approval resent to College for ZCOURSE_NEW ICT 550|20130215

   SIGNATURE|ZNNIKO0|Roshan N Nikou|Graduate Council approval for ZCOURSE_NEW ICT 550|20130219

3

e

Courses	Request Tracking

New Course Form

https://myuk.uky.edu/sap/bc/soap/rfc?services=

Open in full window to print or save

Generate F

Attachments:

[Browse...] Upload File

	ID	Attachment
Delete	1440	550-Security InformaticsREV.pdf

First : 1 : Last

Select saved project to retrieve...   ☐ Get   New

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(*denotes required fields)

1. **General Information**

   a. * Submitted by the College of: COMMUNICATION AND INFORMATION   Today's Date: 3/11/2013

   b. * Department/Division: Library & Information Science

   c.

      * Contact Person Name: Will Buntin   Email: will.buntin@uky.edu   Phone: 859-257-3317

      * Responsible Faculty ID (if different from Contact)   Email: Phone:

   d. * Requested Effective Date: ○ Semester following approval OR ◉ Specific Term/Year ┴ Fall 2013

   e.

      Should this course be a UK Core Course? ○ Yes ◉ No

      If YES, check the areas that apply:

      ☐ Inquiry - Arts & Creativity   ☐ Composition & Communications - II

      ☐ Inquiry - Humanities   ☐ Quantitative Foundations

      ☐ Inquiry - Nat/Math/Phys Sci   ☐ Statistical Inferential Reasoning

      ☐ Inquiry - Social Sciences   ☐ U.S. Citizenship, Community, Diversity

      ☐ Composition & Communications - I   ☐ Global Dynamics

2. **Designation and Description of Proposed Course.**

   a. * Will this course also be offered through Distance Learning?   ○ Yes ⁴ ◉ No

   b. * Prefix and Number: ICT 550

   c. * Full Title: Security Informatics

   d. Transcript Title (if full title is more than 40 characters):

   e. To be Cross-Listed ² with (Prefix and Number):

   f. * Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours³ for each meeting pattern type.

x	Lecture		Laboratory¹		Recitation		Discussion
	Indep. Study		Clinical		Colloquium		Practicum
	Research		Residency		Seminar		Studio
	Other		If Other, Please explain:				

   g. * Identify a grading system: ◉ Letter (A, B, C, etc.) ○ Pass/Fail

   h. * Number of credits: 3

   i. * Is this course repeatable for additional credit?   ○ Yes ◉ No
      If YES: Maximum number of credit hours:
      If YES: Will this course allow multiple registrations during the same semester? ○ Yes ○ No

j. * Course Description for Bulletin:

This course introduces students to policy concerns relating to security informatics, and highlights theoretical and practical approaches to designing secure information and communication technology (ICT) systems. It addresses key issues such as authentication, risk analysis, access control, database and network security,, and information assurance.

k. Prerequisites, if any:

l. Supplementary teaching component, if any: ○ Community-Based Experience ○ Service Learning ○ Both

3. * Will this course be taught off campus? ○ Yes ⦿ No

If YES, enter the off campus address:

4. Frequency of Course Offering.

    a. * Course will be offered (check all that apply): ☑ Fall ☑ Spring ☑ Summer ☐ Winter

    b. * Will the course be offered every year? ⦿ Yes ○ No

       If No, explain:

5. * Are facilities and personnel necessary for the proposed new course available? ⦿ Yes ○ No

If No, explain:

6. * What enrollment (per section per semester) may reasonably be expected? 35

7. Anticipated Student Demand.

    a. * Will this course serve students primarily within the degree program? ⦿ Yes ○ No

    b. * Will it be of interest to a significant number of students outside the degree pgm? ○ Yes ⦿ No

       If YES, explain:

8. * Check the category most applicable to this course:

☐ Traditional – Offered in Corresponding Departments at Universities Elsewhere
☑ Relatively New – Now Being Widely Established
☐ Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

    a. * Is this course part of a proposed new program? ⦿ Yes ○ No

    If YES, name the proposed new program:
    Information Communication Technology (ICT)

    b. * Will this course be a new requirement [5] for ANY program? ○ Yes ⦿ No

    If YES [5], list affected programs::

10. Information to be Placed on Syllabus.

    a. * Is the course 400G or 500? ⦿ Yes ○ No
    IF YES, the *differentiation for undergraduate and graduate students must be included* in the information required in **10.b.** You must include: (i) ident additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR

    b. ☑ * The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if appl

    10.a above) are attached.

[1] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
[2] The chair of the cross-listing department must sign off on the Signature Routing Log
[3] In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, re two hours per week for a semester for one credit hour. (from SR 5.2.1)
[4] You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.
[5] In order to change a program, a program change form must also be submitted.

Rev 8/09

Submit as New Proposal   Save Current Changes   Delete Form Data and Attachments

UK.
UNIVERSITY OF
KENTUCKY

School of Library
& Information Science

ICT 550: Security Informatics

Instructor
TBD
320 Lucille Little Fine Arts Library
Lexington, KY 40506-0224
Phone: 859.257.8876 (administration)
Phone: 859.257.3317 (admissions)
Fax: 859.257.4205
Preferred method of contact: email

Office Hours
- TBD and by appointment
- Contact me via e-mail to schedule an appointment to meet: I will frequently respond as soon as possible, usually within 24 hours.

CLASS INFORMATION

Course Format: This is a face-to-face course. You are required to attend scheduled classroom sessions. Asynchronous class discussion via Blackboard will be required periodically.

Course Requirements
You will need access to an appropriate computer with a broadband Internet connection.

Blackboard
The Blackboard course management system will be used to facilitate the class. Please visit http://www.uky.edu/Blackboard/ to learn about this system and the login requirements.

COURSE INFORMATION

Course Description
This course introduces students to policy concerns relating to security informatics, and highlights theoretical and practical approaches to designing secure information and communication technology (ICT) systems. It addresses key issues such as authentication, risk analysis, access control, database and network security, and information assurance.

Course Objectives
The objectives of this course are to examine and identify:
- The key concepts related to security informatics.
- Current security policies, standards and evaluation criteria as they apply to ICT systems design and maintenance.
- Biometrics for access control, network protocols, firewall, intrusion detection, wireless systems, computer forensics.
- Emerging trends in information assurance.

Learning Outcomes:
Students completing the course will be able to:

- Define and describe key concepts related to security informatics.
- Articulate relevant policies and standards as they apply to security informatics.
- Apply evaluation and risk assessment criteria to detect security risk.
- Determine appropriate response mechanisms to mitigate security risks.
- Recognize, evaluate and determine emerging trends in information assurance.

Course Overview
The following broad topical areas will be covered:

- Information security standards and evaluation criteria
- Software and its role in ICT security systems
- Network and Wireless systems security
- Security Threats, Vulnerabilities, Policies, Risk Analysis, and Assessment
- Biometrics and Access Control
- Authentication and Authorization
- Use of Firewall Technology
- Intrusion Detection and Prevention Systems
- Information Assurance

Course Methodology
Each week, students will be expected to:

1. Review the week's learning objectives.
2. Complete all assigned readings.
3. Read and understand any additional supplementary material that may be provided from time to time
4. Participate in the Discussion Boards and any other on-line assignments[*]
5. Complete and submit all assignments and quizzes by their due dates[**]

* Students are expected to participate in the discussion board topics, which will be posted no later than Sunday at midnight at the start of each week. The topics will relate to the course readings and supplementary material assigned. Students will be evaluated based on the substance, facts, ideas, opinions, tone, and style of their responses. Responses will be monitored for inappropriate comments.

Required Reading
Kizza, J. M., & Kizza, F. M. (2008). *Securing the information infrastructure*. Hershey PA: CyberTech Publ.

STUDENT EVALUATION

Undergraduate Grading Parameters

Final Exam:	30%
Midterm Exam:	20%
Position Papers:	20%
Class Participation:	20%
Mini Quizzes:	10%

Graduate Grading Parameters

Final Exam:	30%
Final Project:	10%
Midterm Exam:	20%
Position Papers:	15%
Class Participation:	20%
Mini Quizzes:	5%

Grading Rubric
The following grading rubric will be employed to evaluate position papers:

Written communication (50 %)
Organization
- Inadequate (10 %): There appears to be no organization of the essay's contents.
- Needs Improvement (15 %): Organization of the essay is difficult to follow, due to inadequate transitions and/or rambling format.
- Adequate (20 %): The essay can be easily followed. A combination of the following is apparent: Basic transitions are used; a structured format is used.
- Professional quality (25 %): The essay can be easily followed. A combination of the following is apparent: Effective transitions are used; a professional format is used.

Mechanics and grammar
- Inadequate (10 %): Sentences and paragraphs are difficult to read and understand due to poor grammar or mechanics
- Needs improvement (15 %): The essay contains numerous grammatical and mechanical errors.
- Adequate (20 %): The essay contains minimal grammatical or mechanical errors.
- Professional quality (25 %): The essay is clear and concise and contains no grammatical or mechanical errors.

Content (50 %)
Correctness of facts
- Inadequate (10 %): Most facts are wrong.
- Needs improvement (15 %): Some facts are wrong.

- Adequate (20 %): Technical details are generally correct.
- Professional quality (25 %): All facts are correct, and the technical explanation is both concise and complete.

Completeness
- Inadequate (10 %): Did not address some of the questions.
- Needs improvement (15 %): Addressed the questions, but provided few details.
- Adequate (20 %: Address the questions, but left out some details.
- Professional quality (25 %): Addressed all questions completely.

Undergraduate Grading Scale
[90% – 100%] = **A (Exceptional Achievement)**
[80% – 89%] = **B (High Achievement)**
[70% – 79%] = **C (Average Achievement)**
[60% – 69%] = **D (Below Average Achievement)**
 [0% – 59%]   **(Fail)**

Graduate Grading Scale
[90% – 100%] = **A (Exceptional Achievement)**
[80% – 89%] = **B (High Achievement)**
[70% – 79%] = **C (Average Achievement)**
[0% – 69%] = **E (Fail)**

Midterm Grade Policy
Mid-term grades for undergraduate students will be posted in myUK by the deadline established in the Academic Calendar (http://www.uky.edu/Registrar/AcademicCalndar.htm)

Attendance Policy
You are expected to attend every class session. Each student will be allowed to miss no more than two class sessions without a grade penalty. Every missed class after that will result in a 5 point penalty for the student's attendance grade. If a student misses 20% or more of the class, the student will fail the course and will be expected to withdraw from the course (SR 5.2.4.1-2).

Excused Absences (S.R. 5.2.4.2)
Summarized from Senate Regulation 5.2.4.2: A student shall not be penalized for an excused absence. The following are defined as excused absences:

- Significant illness of the student or serious illness of a member of the student's household (permanent or campus) or immediate family.

- The death of a member of the student's household (permanent or campus) or immediate family.

- Trips for members of student organizations sponsored by an educational unit, trips for University classes, and trips for participation in intercollegiate athletic events, including club sports registered with the university as well as varsity sports. Prior notification is required.

- Major religious holidays. Prior notification is required.

- Any other circumstances which the Instructor of Record finds reasonable cause for absence.

Students missing any graded work due to an excused absence bear the responsibility of 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 of making up the missed work. The Instructor of Record shall give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Excused absences' effect on grading: Summarized from Senate Regulation 5.2.4.2: If attendance is required by the class policies elaborated in the syllabus or serves as a criterion for a grade in a course, and if a student has excused absences in excess of one-fifth of the class contact hours for that course, a student shall have the right to petition for a "W", and the Instructor of Record may require the student to petition for a "W" or take an "I" in the course. If a student has an excused absence on a day when a quiz is given, the instructor may not deny permission for a makeup exam and simply calculate the student's grade on the basis of the remaining requirements.

Verification of Absences
Faculty have the right to request appropriate verification when students miss class due to illness or death in the family. Any absence for University related travel should be provided prior to the absence.

Submission of Assignments
Assignments are due on the day listed or set in consultation with the instructor. Eamil or computer failures will not be accepted as valid excuses for late work. If you have a situation arise that will impact your ability to turn in your work on a timely basis, make the instructor aware of it as soon as possible.

Academic Integrity, Cheating & Plagiarism
According to Senate Regulation 6.3.1: "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." For specific information regarding the University's code and regulations on plagiarism and cheating, visit:

http://www.uky.edu/StudentAffairs/Code/
http://www.uky.edu/StudentAffairs/Code/part2.html
http://www.uky.edu/Ombud/Plagiarism.pdf: "Plagiarism: What is it?"

Group Work & Student Collaboration
Unless otherwise noted, all assignments are expected to be done by the individual student. Students are only allowed to collaborate on assignments when explicity allowed by the instructor or syllabus.

Incompletes
Student requests for an Incomplete (an I grade) will be considered within University guidelines and only in extreme circumstances. See section 5.1.3.2 http://www.uky.edu/StudentAffairs/Code/part2.html.

Classroom Behavior
Students are expected to full participate in class. This means having completed all assigned readings prior to class and arriving prepared to discuss the topics for that class period. Participation also includes activity on our Blackboard shell used to facility in-class activities. All students participating in class room discussions are expected to provide relevant discussion, be respectful of other class mates and their opinions and share any relevant personal experience that may add to the topic at hand.

Academic 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 (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

TECHNOLOGY INFORMATION & RESOURCES

Students must have regular access a computer with a reliable Internet connection and audio capabilities. Internet Explorer 7 (IE) or Firefox 2.x are the recommended browsers for those using a Windows-based PC. Those using Firefox 3.x may encounter problems with assignment uploads. Those using an Apple computer with MAC OS X (10.5.x) may use Firefox 3.x or Safari 3.x.

Please be certain that your computer and/or browser allow you to view Adobe Reader documents (.pdf). Microsoft Office and other software products are free for students: https://iweb.uky.edu/MSDownload/.

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact TASC or UKIT.

Teaching and Learning Services Center (TASC)
http://www.uky.edu/TASC/; 859-257-8272

Information Technology Customer Service Center (UKIT)
http://www.uky.edu/UKIT/; 859-257-1300

Course Reserves
http://www.uky.edu/Libraries/page.php?iweb_id=23&ltab_rank=3

GENERAL COURSE POLICIES

Policies concerning academic integrity, excused absences and academic accommodations due to disability are available online at: http://www.uky.edu/CIS/SLIS/academics/policies.pdf

READINGS SCHEDULE

Week 1	INTRODUCTION: pp. 1-21, *Chapter 1: Building Trust in the Information Infrastructure* and *Chapter 2: Need for Morality and Ethics*
Week 2	pp. 22-40, *Chapter 3: Building an Ethical Framework for Decision Making*
Week 3	pp. 41-64, *Chapter 4: Security, Anonymity, and Privacy; quiz 1*
Week 4	pp. 66-87, *Chapter 5: Software Standards, Reliability, Safety, and Risk; position paper 1*
Week 5	pp. 88-118, *Chapter 6: Network Basics and Securing the Network Infrastructure*
Week 6	pp. 119-135, *Chapter 7: Security Threats and Vulnerabilities; quiz 2*
Week 7	pp. 137-160, *Chapter 8: Security Policies and Risk Analysis; position paper 2*
Week 8	pp. 161-179, *Chapter 9: Security Analysis, Assessment, and Assurance*
Week 9	pp. 180-207, *Chapter 10: Access Control, Authentication, and Authorization*
Week 10	pp.209-238, *Chapter 11: Perimeter Defense: The Firewall; quiz 3*
Week 11	pp. 239-258, *Chapter 12: Intrusion Detection and Prevention Systems; position paper 3*
Week 12	pp. 259-278, *Chapter 13: Security in Wireless Systems*
Week 13	pp. 280-296, *Chapter 14: Biometrics for Access Control; quiz 4*
Week 14	pp. 298-334, *Chapter 15: Digital Evidence and Computer Crime* and *Chapter 16: Digital Crime Investigation and Forensics; position paper 4*
Week 15	pp. 336-354, *Chapter 17: Trends in Information Assurance*