

# Computer Applications in Health Care

Clemson University, School of Nursing

<b>COURSE:</b> NURS 1400 (Section 001)	<b>TERM:</b> Spring 2021
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<b>CLASS:</b> Synchronous Online	<b>OFFICE HRS:</b> Virtual by Appt
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<b>Credits:</b> 3 credits (3, 0)	<b>Placement:</b> Freshman

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## Catalog Description:



This course is designed to introduce students to nursing and the application of computer technology in the delivery of health care. The course will cover existing computer health care applications, emerging trends, and forecast future needs. Social and ethical issues related to technology will be discussed.

## Clemson Thinks2:

This course is a part of the Clemson Thinks2 (CT2) Quality Enhancement Plan that focuses on undergraduate critical thinking, a skill that is vital to your success in college and after graduation. The CT2 initiative at Clemson is part of the university's strategic plan to become a top-20 University in part by promoting engaged learning environments that promote critical thinking skills among students throughout their 4-year Clemson Experience. Critical thinking is a core competency for BSN graduates. Upon graduation, baccalaureate-prepared nursing students should question, analyze, interpret, infer, apply, and use inductive and deductive reasoning, as well as intuition and creativity in their nursing practice ([American Association of College of Nursing, Essentials of Baccalaureate Education for Professional Nursing Practice, 2008](#)).

This course has been designed to provide freshman & sophomore level students with opportunities to enhance critical thinking skills that will prepare them to engage in higher-level informed thinking in the classroom, the community, and their future careers. To assess the students' progress in critical thinking skills, students will take the California Critical Thinking Skills Test (CCTST) at the end of the semester. Many of the course assignments are designed to enhance critical thinking skills, such as analyzing, inferring, evaluating, deducing, and critiquing. The primary goals of this CT2 seminar include developing students who can:

1. Develop university-level competencies that characterize critical thinking
2. Describe and reflect on specific activities that characterize critical thinking
3. Apply critical thinking skills to problem-solving situations related to patients and patient care.

## Course Objectives:

1. Describe concepts relevant to the profession of nursing and information technology in health care.
2. Apply information technologies to the intellectual and professional development of health care delivery.
3. Demonstrate an understanding of the role of science and technology in society including information ethics and societal issues.
4. Explore recent innovations, emerging trends and forecast future needs related to the use of technology in health care.
5. Identify current informatics research issues and opportunities.

## CT2 Course Student Learning Outcomes:

Upon successful completion of the course, students will demonstrate the ability to:

1. Explore and describe complex challenges associated with new healthcare technologies [Nursing Innovation\*].
2. Learn to assess the reliability of healthcare information on the Internet to make well-informed choices about where to find reliable information [Digital Patient Engagement\*].
3. Identify a patient problem/issue, determine a solution to this patient problem, and create a 3D printed prototype depicting your solution. Evaluate your solution, including its strengths and weaknesses. Develop an argument to support your prototype [Nursing Innovation\*].
4. Reflect on the strengths and weaknesses of yourself and your team members and suggest ways in which you and others could improve the future work of the team [Nursing Innovation\*]



\*These are CT2 artifacts.

## Teaching/Learning Strategies:

Software Applications  
Demonstrations  
Online Exercises

Online Discussions  
Online Activities  
Project Presentations

## Evaluation Methods:

A passing course grade requires a minimum numerical grade of 75 in the course. A passing grade is the weighted average of 3 Milestones, including the Interview, Critical Thinking (CT2) paper, Makerspace Activity, class activities, Midterm examination, CCTST, and Final examination.

Students who do not adequately complete a class activity will receive an incomplete (0 points) on that activity. Class activities that are completed and submitted in a timely fashion will be graded as complete (1 point) and will account for 10% of the total grade. If a student has 3 or more late activities, the student will automatically receive a zero (0) for the entire 10% of the class activities grade.

## Nursing Innovation Project [3 Milestones]

- M01: Interview 7%
- M02: CT2 Paper 20%
- M03: Makespace Activity 20%

Class Activities	10%
Midterm Exam	20%
Final Exam	20%
CCTST (Posttest)	3%



## **Nursing Innovation Project**

The purpose of the Nursing Innovation Project is to develop prototypes for possible solutions to *real* healthcare problems. This project should help nursing students create health technologies allowing them to engage in the design and development of healthcare devices.

This Nursing Innovation Project is based on ideas talked about in The Future of Nursing IOM Report (2010). This report calls on nurses to do more than just talk about new ideas for improving health and health care. It states that nurses need to be able to turn their ideas into a product that they can hold in their hands. Your final Nursing Innovation Project must be showcased at Makerday [TBA] if it is held this semester.

### **Milestone 01: The Interview**

Interview a healthcare provider, a patient and/or care provider. Also, feel free to use your resources, nursing faculty, or senior nursing students if needed. Identify a *real* problem in the delivery of healthcare and create a prototype to improve the problem in a Healthcare Makespace. The topic you choose needs to be one that can be researched to:

#### Identify the interviewee: (20%)

- How do you know this individual?
- Where does this individual work? (Be specific)
- What area does this individual work in? (PICU, L&D, etc.)
- Years out of school

#### Clearly define the problem: (40%)

- What is the problem? [Be specific].
- Why is this a problem?
- How is the problem being handled today?
- Identify multiple present-day solutions

Identify the healthcare setting: (20%)

- Hospital
- Public health center
- School
- Home

Identify the area your project will address: (20%)

- Direct patient care
- Health promotion
- Patient education

**Milestone 02: The Critical Thinking [CT2] Paper:**

Write a critical thinking paper about the healthcare problem identified in Milestone 01 [The Interview]. Conduct a computer library search to find recent (2015-2020) articles concerning the healthcare problem. Make sure the research includes alternative points of view. Write a critical thinking paper using APA format. Make sure you include a Peer Evaluation for each member of your group. [Draft counts 20% of the total paper grade. Therefore, 3% draft + 17% final = 20% CT2 paper grade].

**Milestone 03: The Makerspace Activity**

This Makerspace Activity will be a collaboration between the Clemson University School of Nursing, The HIVE: Health InnoVation Exchange], and the [Clemson Makerspace](#). Each student will complete training to using the Clemson Makerspace. Then groups will create a prototype project [include 3D printing] as a possible solution to the identified patient problem. Students will then create a final Adobe Spark project and submit the link. Make sure you include a Peer Evaluation for each group member. The Makerspace Activity counts as 20% of your final grade.



If done correctly, these assignments provide evidence for the following competencies:

- M1 Demonstrate mathematical literacy through solving problems, communication concepts, reasoning mathematically, and applying mathematical or statistical methods using multiple representations.
- M5 Understand the role of science and technology in society.

**Project Group Policy:**

During your Nursing Innovation Project, if you should you feel that any member of your group is not doing their share of the work, or if any wrongdoing is going on between group members, this should be reported to the professor immediately. Group work is a collaborative effort and is only as good as the sum of its parts. Therefore, whatever product is turned in as a group, everyone in the group will receive the same grade. This grading procedure is to discourage one person in a group from doing all the work, as well as to identify group member(s) who are not doing a fair amount of

the work. If the entire group deems a member unsound and reports it, appropriate action will be taken, which can include, but is not limited to, counseling sessions with the group and professor, individual reported counseling with professor, and/or outright expulsion from the group with the expelled individual having to finish a different project on their own.

Peer Evaluation. Reflect on the strengths and weaknesses of yourself and your team members and suggest ways in which you and others could improve the work of the team in the future.

### **Grading Scale:**

A = 90 - 100

B = 80 - 89

C = 75 - 79

D = 70 - 74.9

F = 69 and below

I = see University policy

### **Course Policies:**

Major project assignments must be completed and submitted by 11:59 p.m. on the due date (EST) for full credit. Late assignments or projects will have 5 points deducted per day for 3 days unless arrangements are made with the faculty **before** the due date and time. Assignments and projects not submitted within 3 days of the due date will receive a zero (0). It is your responsibility to confirm that your assignment has been successfully uploaded and submitted via CANVAS. After you submit your assignment in CANVAS, please confirm that your assignment has been submitted. Take a screenshot showing the successful submission with date and time. Confirming your assignment prior to the due date and time is important.

### **Naming Convention for Submission of Course Documents:**

Use the following naming format when you turn in course assignments.

1. The Course ID first, followed by a space.
2. Your last name followed by first initial, followed by a space.

Example: N1400 Seawright [NI=Nursing Informatics]

### **Inclement Weather:**

When county government offices are closed, local Clemson University campuses also are closed. Visit the [county government offices website](#) to monitor county office closings in your area.

### **Attendance Policy:**

College work proceeds at such a pace that regular attendance is necessary for each student to obtain maximum benefits for instruction. Regular and punctual attendance at all class sessions is the responsibility of each student, and each student is responsible for all the work, including tests and written work. All absences are matters to be resolved between the student and the instructor. If a student finds it necessary to be absent from class, it is the student's responsibility to make up resulting deficiencies.

If there is a conflict between class and a regularly scheduled academic or athletic activity sponsored by Clemson University, it is the responsibility of the student to inform the instructor of this requirement **in advance**. If this procedure is not followed, the instructor reserves the right to deny the student the opportunity to make up any quizzes, examinations, or instruction missed. Excuses other than those involving official university functions are expected within one (1) week of the absence(s).

### **Make-up Work Due to Missed Attendance**

1. Students should speak with their course instructors regarding any scheduled absence as soon as possible and develop a plan for any make-up work.
2. In the event of an emergency, the student should make direct contact with the course instructor, preferably before a class or an exam takes place. It is the student's responsibility to secure documentation of emergencies if required.

### **Notification of Absence**

1. The Notification of Absence module in Canvas allows students to quickly notify instructors (via an email) of an absence from class and provides for the following categories: court attendance, death of family member, illness (or COVID-19 related isolation), illness of family member, injury, military duty, religious observance, scheduled surgery, university function, unscheduled hospitalization, other anticipated absence, or other unanticipated absence. The notification form requires a brief explanation, dates, and times. Based on the dates and times indicated, instructors are automatically selected, but students may decide which instructors will receive the notification. This does not serve as an "excuse" from class, and students are encouraged to discuss the absence with their instructors. If a student is unable to report the absence electronically, he/she may call the Office of Advocacy and Success at 656-0935 for assistance and guidance.
2. The Office of Advocacy and Success also assists students in identifying various appropriate methods of documenting absences and assists families in using the electronic Notification of Absence system when students are unable to do so themselves.

### **Academic Integrity:**

"As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning.' Fundamental to this vision is a mutual commitment to truthfulness, honor and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we will not tolerate lying, cheating, or stealing in any form."

You are expected to be on your honor not to cheat and to report cheating if you are aware of it. The university policy on academic dishonesty is outlined in the student handbook. Please read this section and know that I uphold the university policy and that cheating (including giving or receiving information on tests, homework, plagiarism, lying about absences, homework, etc.) can result in an "F" in this course and a mark on your permanent record.

"Cheating" includes, but is not limited to:

1. Plagiarism on papers.
2. Giving answers to another student
3. Talking during exams.
4. Having notes at the desk during exams.

Integrity violations will be reported as per University Policy and may not include notification of the suspected student.

### **Title IX Policy:**

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972.

The University is committed to combatting sexual harassment and sexual violence. As a result, you should know that University faculty and staff members who work directly with students are required to report any instances of sexual harassment and sexual violence, to the University's Title IX Coordinator. What this means is that as your professor, I am required to report any incidents of sexual harassment, sexual violence or misconduct, stalking, domestic and/or relationship violence that are directly reported to me, or of which I am somehow made aware.

There are two important exceptions to this requirement about which you should be aware:

Confidential Resources and facilitators of sexual awareness programs such as "Take Back the Night and Aspire to be Well" when acting in those capacities, are not required to report incidents of sexual discrimination.

Another important exception to the reporting requirement exists for academic work. Disclosures about sexual harassment, sexual violence, stalking, domestic and/or relationship violence that are shared as part of an academic project, a research project, classroom discussion, or course assignment, are not required to be disclosed to the University's Title IX Coordinator.

This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Executive Director for Equity Compliance and the Title IX Coordinator. Her office is located at 223 Holtzendorff Hall, phone number is 864.656.3181, and email address is [alesias@clemson.edu](mailto:alesias@clemson.edu).

## **Safety:**

### **Emergency Guidelines from Clemson University Police**

All students and employees should be familiar with the following guidelines. For additional information about safety, see <http://www.clemson.edu/cusafety/EmergencyManagement/>.

#### **Evacuation General Guidelines:**

- Plan ahead. Know evacuation routes from your office and campus.
- If the building fire alarm is activated, leave without delay.
- Remain calm and listen for specific evacuation instructions.
- Do not return for personal items.
- Walk, do not run. Once outside the building move away from the exits.
- Do not go into the restrooms.
- Do not use the elevators!
- Direct visitors or anyone needing assistance to nearest stairwell.

#### **Active Shooter:**

- Always call 911 as soon as you possibly can.
- Run away from the area, if it is safe to do so, time allows and the gunman is not nearby.
- Hide if the gunman is too close to your location. Find a safer place, lock and barricade doors, turn lights out and cell phones off or to vibrate.
- Fight. As a last resort, resolve to fight the intruder with everything you have at your disposal.

## **Student Accessibility Services:**

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to a class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848 or by emailing [studentaccess@lists.clemson.edu](mailto:studentaccess@lists.clemson.edu). Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <http://www.clemson.edu/campus-life/campusservices/sds/>.

## **Professor Delay:**

In unusual circumstances, the professor may be delayed. In keeping with Clemson University policy, students are expected to wait for 15 minutes after the scheduled start of class before departing.



**Testing Policy:**

Each student is expected to attend all online examinations. If a student must miss a scheduled exam, the student must notify the instructor prior to exam. A student who does not obtain instructor's prior approval will receive a zero on the missed exam.

**Text(s):**

No textbook is required

**Other:**

Cloud backup (e.g., Google Drive) of your NURS 1400 work.

**Specific COVID-19 related information:**

For a student who reports testing positive or is being asked to quarantine/isolate because of exposure to the virus, it will be up to the student to inform the instructor that they will be moving to online only instruction for at least the next two weeks. Students are directed to use the Notification of Absence module in Canvas to initiate this notification. (For courses where Canvas is not used, the direct link to the Notification of Absence form can be found through the [Division of Student Affairs site](#).) Additional communication via email is encouraged; students should follow up with their instructor to develop a continued plan of study for each course. Students cannot be penalized in their grade for needing to move to online instruction.

**Response to a Presumptive Positive or Positive COVID-19 Test:**

Instructors and students who are informed that they have a presumptive positive diagnosis or have tested positive for COVID-19 should immediately self-isolate and submit the COVID-19 Positive Test Reporting Form (under development, [see University COVID-19 webpage](#)).