286
a,b

Washington State University
MAJOR CURRICULAR CHANGE FORM - - NEW/RESTORE COURSE

- ☐ **Please attach rationale for your request, a complete syllabus**, and explain how this impacts other units in Pullman and other campuses (if applicable).
- ☐ **Obtain all required signatures with dates.**
- ☐ **Provide original stapled packet of signed form/rationale statement/syllabus** PLUS **10 stapled copies** of complete packet to the **Registrar's Office**, campus mail code 1035.
- ☐ **Submit one electronic copy of complete packet** to wsu.curriculum@wsu.edu.

Requested **Future** Effective Date: Fall 2015 (term/year) Course Typically Offered: Fall

DEADLINES: For fall term effective date: **October 1st**; for spring or summer term effective date: **February 1st**. See instructions.

NOTE: Items received after deadlines may be put to the back of the line or forwarded to the following year. Please submit on time.

☑ **New Course** ☒ Temporary Course Fall 2015 ☐ **Restore Course**

CptS, Psych	a 485 / b 585	Gerontechnology I
course subject/crosslist	course no.	title

3	(3	-)	
Credit hrs	lecture hrs per week	lab or studio hrs per week	prerequisite

Description for catalog: Introduction to the field of gerontechnology, including aging and senses, mobility and exercise, data analysis, and research methods

Additional Attributes: Check all that apply.

☑ Crosslisting (between WSU departments)* ☑ Conjoint listing (400/500): _____

☐ Variable credit: _____ ☐ Repeat credit (cum. max. hrs): _____

Special Grading: ☐ S, F; ☐ A, S, F (PEACT only); ☐ S, M, F (VET MED only); ☐ H, S, F (PHARMACY, PHARDSCI only)

☐ Cooperative with UI ☐ Other (please list request): _____

The following items require prior submission to other committees/depts. (SEE INSTRUCTIONS.)

☐ Request to meet Writing in the Major [M] requirement **(Must have All-University Writing Committee Approval.)**

☐ Request to meet UCORE in _____ **(Must have UCORE Committee Approval › › See instructions.)**

☐ Special Course Fee _____ **(Must submit request to University Receivables.)**

Contact: Diane Cook Phone number: 335-4985 Campus mail code: 2752

Email: cook@eecs.wsu.edu Instructor, if different: Maureen Schmitter-Edgecombe

2/2/15	2/3/15	
Chair/date	**Dean/date**	**All-University Writing Com / date**
2/4/15	2/4/15	
Chair (if crosslisted/interdisciplinary)*	**Dean (if crosslisted/interdisciplinary)***	**UCORE Committee Approval Date**
Catalog Subcommittee Approval Date	**GSC or AAC Approval Date**	**Faculty Senate Approval Date**

***If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.**

Received 3/5/2015

To Whom It May Concern:

We would like to propose two new courses for consideration. This is a multidisciplinary course sequence on the topic of Gerontechnology, which is the study and design of technologies to address challenges related to aging.

Previous offerings: Drs. Cook and Schmitter-Edgecombe have taught this course sequence three times as a graduate-level course sequence. The classes were favorably received. The research projects that were introduced in the class were actually developed into full PhD dissertations by six graduate students. In addition, approximately 20 papers have been published based on results from this class, including a paper on Gerontechnology curriculum development.

Background on this proposal: During Fall of 2014 we received $1.7 million funding from the National Institutes of Health to design a five-year undergraduate training program on Gerontechnology. Our stated goals include offering the Gerontechnology I and II courses at the undergraduate level as well as the graduate level. We committed to offering the class to students from multiple disciplines. In addition, a goal of the program was to integrate the course sequence into WSU's existing Minor on Aging (see attached proposal objectives). The current and prior advisors for this minor, Dr. Debra Nelson and Dr. Margaret Young, are both very supportive of including this class as an elective in the minor. In order to do this, however, we need a formal course number assigned to the proposed classes.

Differences between Gerontechnology I and Gerontechnology II: In order to receive thorough training in a complex field such as Gerontechnology, we need two semesters. Not only will this allow us to cover a broad range of topics with greater depth, but the longer time frame will provide the students with more significant experience in conducting Gerontechnology. Here are specific differences between the two semesters:

- Topics
  - Gerontechnology I: Research methods, sensors, smart environments, aging and senses, aging and health care, exercise and mobility, cognition, aging and everyday function, ethics
  - Gerontechnology II: Mild cognitive impairment and dementia, socialization, caregiver issues, mobile app design for health monitoring and intervention, tremor analysis, IRB background, data visualization, and technology assistance for other health issues
- Homeworks
  - Gerontechnology I: service learning project and report, collection and analysis of smartphone data
  - Gerontechnology II: paper presentation, design of digital memory notebook app, elevator talk
  - Both semesters will also include guest speaker summaries and a research project report
- Research project
  - Gerontechnology I: Students will define their project statement and hypothesis, will get familiar with the underlying technology and aging challenge, and will complete an initial pilot test. The opportunity to work with older adults as part of the service learning component early in the semester will also assist in laying the foundation for student projects.

    - Gerontechnology II: Students will conduct a full study, analyze the collected data, and write up the results
- Both semesters will include guest lectures from experts in the field and field trips to medical or research sites.

Differences between the Graduate and Undergraduate versions of the class: The underlying material of this course is relevant and valuable for both graduate and undergraduate students. The material is specialized enough that not many faculty can teach the course. As a result, we want to offer graduate and undergraduate versions of the class at the same time, so both groups can benefit from the core material. However, there are differences between the graduate and undergraduate versions of the class.

First, in Gerontechnology I the graduate students will write a survey paper on a topic related to gerontechnology (the undergraduate students will not write this paper). This will give them experience performing a literature review with critical analysis. On the other hand, the graduate students will perform a slightly smaller service project than the undergraduate students (although both will be required to write a service learning project report). In Gerontechnology II, the graduate students will perform a more thorough study based on their research project and from this work prepare a draft version of a paper to submit to a gerontechnology-related journal.

In both classes, the graduate students will take on a leadership role in the team research projects and will mentor the undergraduate team members as well as contribute to the research project. In this role, graduate students will set up regular meeting times for their team and make sure the group is adhering to the project timeline. This will provide graduate students with valuable leadership experience and provide cohesiveness to the project team. In order to guide the graduate students through these extra steps, the instructors will meet separately with the graduate students to offer suggestions and address concerns.

This additional required work for the graduate students will give them a deeper understanding of the field (through the survey paper requirement). They will obtain mentoring experience that positions them to be leaders in the field (through the team leadership requirement) and will obtain additional data analysis and interpretation experience (by means of the additional analysis and writing required for the journal draft paper).

Here are the additional conjoint course information components that are requested.

1. Number of faculty in the degree granting area.
    a. Psychology: 33 faculty, including 8 clinical-track (Pullman only: 19 faculty; 6 are clinical-track faculty)
    b. Computer Science: 14 faculty
2. Number of graduate courses listed on the books.
    a. Clinical Psychology: 26 graded graduate courses, 14 S, F courses. For reference see following link: http://catalog.wsu.edu/Pullman/Courses/BySubject/PSYCH.
    b. Computer Science: thirty graduate courses. For reference see link http://school.eecs.wsu.edu/graduate/courses
3. Number of courses currently listed as conjoint.
    a. Psychology: one conjoint course; 491/591 Principles of Learning
    b. Computer Science: eight conjoint courses
4. How often are the conjoint courses offered?
    a. Psychology: The graduate counterpart is offered approximately every other year. The undergraduate level course is offered every year.

   b. Computer Science: The undergraduate and graduate components are typically offered once a year. A couple of the classes are offered every other year.
5. How many courses are designed as graduate courses with a few undergrads enrolled?
   a. Psychology: There is only one conjoint course. Graduate enrollment is typically much less than undergraduate enrollment.
   b. Computer Science: None of them. All of them have close to equal enrollment of graduate and undergraduate students.
6. Over the past three years, what percentage of courses on the Graduate degree program of study are conjoint courses?
   a. Psychology: Over the past three years, only one conjoint course was offered, comprising 2% of the total time.
   b. Computer Science: Approximately 10% of the graduate class offerings have been attended by undergraduates.
7. Why is this particular course integral to the graduate program in the degree granting areas?

   This is a very unique class that is becoming an important and popular research topic in both fields (Psychology and Computer Science). Both the National Science Foundation and the National Institutes of Health feel that the topic is so important that they provide funding to universities who can design training programs in the field for undergraduate students and graduate students. This particular course sequence is sponsored in part by a training grant from the National Institutes of Health. Our past offerings of the graduate version of the class (three previous offerings) were well attended. The research projects that were initiated in the class resulted in eleven PhD dissertations and the students have continued to work in related areas for their chosen careers. In addition, the need to prepare students for the job market and scientific challenges by adapting the graduate training curricula to provide more multidisciplinary training is an emerging challenge in graduate education.

   Because this is a multidisciplinary topic, it is not one that is commonly offered in either program or at many universities. However, at Washington State University we have faculty in each discipline who have worked in this area together for a number of years and so are uniquely positioned to train students in the field. Taking the class fills an important training need in the overlap between the disciplines. However, the class also trains students in topics that are central to the individual disciplines as well, including field experiences, human subjects training, and experiment design (Psychology); and data visualization, app design, machine learning, and data analysis (Computer Science).

8. How many students are in the degree area?
   a. Clinical Psychology: approximately 60 graduate students (in 2 PhD programs), approximately 1000 (pre-majors + majors) undergraduate students
   b. Computer Science: 160 graduate students, 900 undergraduate students
9. Are there department policies about the number of conjoint courses on a program of study?
   a. Psychology: No
   b. Computer Science: No.

Request: We request that the proposed course sequence be approved by our curriculum committees, department chairs, and the faculty senate. Specifically, the course sequence needs:

- A 400-level Computer Science (CptS) undergraduate course number
- A Computer Science (CptS) graduate course number

- A 400-level Psychology (Psych) undergraduate course number
- A Psychology (Psych) graduate course number

We additionally request that the class be reviewed as an addition to the list of electives offered for the Minor on Aging.

Thank you for your consideration.

Diane Cook (EECS), Maureen Schmitter-Edgecombe (Psychology), and Aaron Crandall (EECS)

Received 3/5/2015

Proposed Course: Gerontechnology I

First Offering: Fall 2015

Course Instructors

	Maureen Schmitter-Edgecombe	Diane Cook	Aaron Crandall
Office:	JT 312	EME 121	EME 130
Telephone:	335-0170	335-4985	335-4018
Office hours:	Tu/Th 10-11	Tu/Th 11-12	M/W 9-10
Email:	schmitter-e@wsu.edu	djcook@wsu.edu	acrandal@wsu.edu

Course Web Page

The class web page is available at http://eecs.wsu.edu/~cook/gt1. All of the class materials are available online, including the syllabus, homework assignments, papers, lecture materials, and videos of guest speaker presentations. *All required instructional materials can be accessed at this web page*.

Catalog Course Description

Psych 485 / CptS 485 / Psych 585 / CptS 585 Gerontechnology I 3 Course Prerequisite: Certified in major or consent of instructor.

Required Instructional Material

Given that this is an emerging area of study, there are no available textbooks that fully cover the integrated aspects of the course material. Instead, students will be reading original research articles as well as book chapters to develop both breadth and depth in the subject matter of gerontechnology. An example list of reading materials that will be updated can be found at the end of the course syllabus. There are a few Gerontechnology books that are available as optional resources, these are listed at the end of the syllabus as well.

Course Overview

In this class, we will introduce the principles of Gerontechnology, an interdisciplinary field that combines gerontology and technology. The class will consist of lectures, group discussion, guest presentations, an experiential component working with older adults, and a multi-disciplinary research project. It is assumed that students enrolled in Gerontechnology I will also register and complete the follow-on class in the spring, Gerontechnology II. Following completion of this course, students should (1) have an understanding of the major topics of research in gerontechnology, (2) have a basic understanding of the aging process and research methodology in aging, which will provide the foundation for development of assistive technologies, (3) have a working knowledge of basic technologies that are used to monitor, assess and assist the health of older adults, and (4) have gained experience working with older adults and in multi-disciplinary research teams.

Specific Course Learning Outcomes and Assessments

Because this proposed class includes aspects of scientifically-validated psychological testing and an introduction to engineering methods for data collection, analysis, and design of health-assistive tools, it provides a unique opportunity to strengthen skills in each of the WSU Seven Learning Goals and Outcomes: 1) Critical and Creative Thinking, 2) Quantitative Reasoning, 3) Scientific Literacy, 4) Information Literacy, 5) Communication, 6) Diversity, and 7) Depth, Breadth, and Integration of Learning. The methods and measures for each goal is summarized in the table.

WSU Learning Outcome	Goal (by end of course)	Course topics that address the learning outcome	Evaluation
Critical and Creative Thinking	Assess the accuracy and validity of presented study results, define strategy to address posed challenges related to aging	• Research methodology in aging • Human factors • Ethics, acceptance	• Quiz • Paper • Poster
Quantitative Reasoning	Grasp properties involved in psychological assessment; grasp methods of sensor-based data collection and analysis	• Sensors • Smart environments • Research methods	• Homework assignment • Paper • Poster
Scientific Literacy	Identify issues related to aging, be aware of and understand state-of-the-art research in gerontechnology	• Aging and: senses, health care, mobility, cognition, everyday function • Guest lectures on current research	• Guest lecture summaries • Quiz • Paper • Poster
Information Literacy	Be able to access and utilize literary resources to understand a gerontechnology challenge	• Research methods	• Paper • Poster
Communication	Present the results of a research project orally and in writing	• Research project	• Paper • Poster
Diversity	Be aware of ethical issues related to gerontechnology; understand diversity of cultures in views on aging	• Ethics • Service learning • Field trips	• Service learning report • Quiz
Depth, Breadth, and Integration of Learning	Understand issues related to practical application of technologies to address issues in aging	• Guest lectures on current research • Multi-disciplinary research project	• Guest lecture summaries • Quiz • Paper • Poster

Course Requirements and Grade Distribution - Undergraduates

(1) *Service Learning Project (15%).* You will spend 9 hours working with older adults in the community and/or observing therapists in a formal care setting. You will be required to write a paper about your experiences (detailed below).

(2) *Summaries of Guest Speakers (20%).* We will bring in four experts this semester who will talk to the class about state of the art research in gerontechnology and their experiences in clinical application of the technologies. You will be required to write a one-page discussion of each of these invited talks. The write-up will include 1) a summary of the talk, 2) your ideas about how the speaker's work could be extended in the future, and 3) a discussion of ways in which the speaker's research utilized techniques we have been discussing in class.

(3) *Midterm Exam (10%).* There will be one in-class, essay-style quiz that will test your knowledge of the concepts and methods we have been discussion during the semester.

(4) *Homework Assignment (10%).* You will be given one homework assignment to complete. This assignment will involve collecting and analyzing smartphone data while performing your own normal and scripted activities. *The completed homework assignment should be emailed to acrandal@wsu.edu by 9am on the due date.*

(5) *Research Project (40%).* Throughout the Gerontechnology I class (and Gerontechnology II class), you will contribute to an ongoing multi-disciplinary gerontechnology research project. You will present a poster at the end of the semester highlighting the project and your contributions and discuss your proposed research project and any results obtained to date with visitors at the poster session. You will also submit a paper at the end of the semester detailing your research project. This should include your initial literature review, proposed hypothesis and technological contribution, experimental design, and proposed analysis methods.

(6) *Class Participation (5%).* You will be encouraged to ask questions, and expected to participate in class discussions.

Grades will be determined as follows:

Grade	Percent total
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	<60

Course Requirements and Grade Distribution - Graduate

(1) *Service Learning Project (10%).* You will spend 5 hours working with older adults in the community and/or observing therapists in a formal care setting. You will be required to write a paper about your experiences (detailed below).

(2) *Summaries of Guest Speakers (20%).* We will bring in four experts this semester who will talk to the class about state of the art research in gerontechnology and their experiences in clinical application of the technologies. You will be required to write a one-page discussion of each of these invited talks. The write-up will include 1) a summary of the talk, 2) your ideas about how the speaker's work could be extended in the future, and 3) a discussion of ways in which the speaker's research utilized techniques we have been discussing in class.

(3) *Midterm Exam (10%).* There will be one in-class, essay-style quiz that will test your knowledge of the concepts and methods we have been discussion during the semester.

(4) *Homework Assignment (10%).* You will be given one homework assignment to complete. This assignment will involve collecting and analyzing smartphone data while performing your own normal and scripted activities. *The completed homework assignment should be emailed to acrandal@wsu.edu by 9am on the due date.*

(5) *Research Project (35%).* Throughout the Gerontechnology I class (and Gerontechnology II class), you will lead an ongoing multi-disciplinary gerontechnology research project. You will present a poster at the end of the semester highlighting the project and your contributions and discuss your proposed research project and any results obtained to date with visitors at the poster session. You will also submit a paper at the end of the semester detailing your research project. This should include your initial literature review, proposed hypothesis and technological contribution, experimental design, and proposed analysis methods.

(6) *Survey Paper (10%).* In order to become more familiar with existing research methods and findings in gerontechnology, you will write a literature survey on a topic related to the field. Email your choice of topic to *acrandal*@wsu.edu by 9am on September 22nd. Your literature survey should be 8-10 pages long (plus references) and is due by 9am on November 17th.

(7) *Class Participation (5%).* You will be encouraged to ask questions, and expected to participate in class discussions.

Differences between the Undergraduate and Graduate Offerings of the Course

This course is offered as a 500-level course for graduate students as well as a 400-level course for undergraduate students. There are a few features that differ between the graduate and undergraduate versions of the class. First, the graduate students will write a survey paper on a topic related to gerontechnology (the undergraduate students will not write this paper). This will give them experience performing a literature review with critical analysis. On the other hand, the graduate students will perform a slightly smaller service project than the undergraduate students (although both will be required to write a service learning project report). In addition, the graduate students will take on a leadership role in the team research projects and will mentor the undergraduate team members as well as contribute to the research project. In this role, graduate students will set up regular meeting times for their team and make sure the group is adhering to the project timeline. This will provide graduate students with valuable leadership experience and provide cohesiveness to the project team. In order to guide the graduate students through these extra steps, the instructors will meet with the graduate students to offer suggestions and address concerns.

Research Project

One of the requirements for this class is that you contribute to a research project focused on applying technology to one of the health challenges discussed in this class. Faculty, researchers, and graduate students will visit the class to describe ongoing research studies and you will have an opportunity to choose one of the projects on which you will work. Each of the projects is multidisciplinary, combining ideas and expertise from Psychology, Engineering, and Computer Science. Due dates related to the project are listed below.

- September 1-15: Faculty, researchers, and graduate students will visit class to describe ongoing research projects to which you may contribute.
- September 22: Send email with your top two choices for research projects by 9am to acrandal@wsu.edu.
- September 29 – December 15: Spend a minimum of 5 hours each week contributing to research project. Meeting times with graduate mentors and instructors to discuss your project are integrated into the class schedule during this time.
- December 3: Email a pdf file containing a 36”x48” poster highlighting details of your research work to acrandal@wsu.edu by 9am. The poster will be printed and displayed for the poster session.
- December 8: Poster session. Discuss the research project, your contribution, your plans for ongoing work to visitors at the class poster session.
- December 15: Research project. Email a pdf file containing an 8-10 page research project report to acrandal@wsu.edu no later than 9am. Your project report should contain elements found in a typical research article. These include a problem statement, hypothesis, initial literature review, proposed technological contribution, experimental design, and proposed analysis methods, as discussed in class.

WSU Service Learning Project

You will be required to complete 9 hours (5 hours for graduate students) working with older adults in the real world, or observing health care professionals working with older adults. A staff member from the Center of Civic Engagement will come to class on August 25th to discuss placements that are available through their office and procedures for enrolling through their

office. You may also seek out alternate placements with professionals in the community. The goal of the placement is to provide you with an opportunity to observe some of the issues faced by older adults with disabilities in the real world, to assist you in learning about the types of strategies and assistive technologies that the older individuals may using, and to spark potential ideas for better design development and assistive technologies.

The Center for Civic Engagement (CCE) offers WSU students, faculty, campus departments, and community partners opportunities to share knowledge, skills, and resources for the benefit of student learning and the well-being of our communities. The CCE facilitates service learning experiences as part of academic curricula and will be working with this class to provide appropriate community-based experienced for students.

You will manage your service learning experience on CougSync (https://orgsync.com/login/washington-state-university-pullman). The system tracks your activities and can even provide you with a co-curricular transcript or e-portfolio to show all of the activities you have participated in at WSU. This will be a great resource when applying for jobs or internships! Once CCE has your contact information (we will take care of this on the first day of class), you will receive an email message inviting you to your course portal on CougSync. Log on to CougSync using your WSU network ID and password to access your course space. If you do not receive this email in a timely manner or have any questions please contact a Peer Mentor at the CCE (servicelearning@wsu.edu or 509-335-1661) or visit cce.wsu.edu.

You will need to sign up for your placement work by 9am on September 1st. After you complete your placement work, you will write up a report summarizing your observations. This paper is due on Oct 27th, so please start your placements immediately.

Address the following points in your student placement papers:

- Describe three everyday challenges that the individuals/staff you worked with faced.
- For each of the three everyday challenges, describe at least one strategy or compensatory/assistive technology that was being used? If no strategy/technology was being used, comment on what you think the reason for this was.
- For each of the three everyday challenges, describe how well you felt the strategy and or technology was working. Propose at least one additional technology that you believe could provide assistance. If no strategy was being used, propose a strategy or assistive technology that you think would prove helpful for the situation. For each proposed technology, highlight data/class material that supports its probable success.

Attendance

Weekly attendance is strongly encouraged. While students may miss class for urgent reasons, absences that are not cleared with the instructors will factor into the Discussion portion of the semester grade.

Weather Policy

For emergency weather closure policy, see http://alert.wsu.edu.

Important Dates and Deadlines

Students are encouraged to refer to the academic calendar often to be aware of critical deadlines throughout the semester. The academic calendar can be found at http://www.registrar.wsu.edu/Registrar/Apps/AcadCal.ASPX.

Policy Regarding Late Work

Assignments are expected to be emailed by the listed due date and time. However, assignments that are turned in up to one day late will be accepted with a 10% grade penalty and assignments turned in up to two days late will be accepted with a 20% grade penalty. Assignments turned in more than two days late will not be accepted.

Field Trips

Two field trips are planned during the semester, one in Pullman and one in Spokane. In each case, transportation will be provided if needed. The field trip to Spokane may take longer than the scheduled class period. If you are unable to attend due to schedule conflicts, we will arrange for you to participate via Skype.

Students with Disabilities

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please either visit the Access Center (Washington Building 217) or call 509-335-3417 to make an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

Academic Integrity Policy: http://www.conduct.wsu.edu

As an institution of higher education, Washington State University is committed to principles of truth and academic honesty. All members of the university community share the responsibility for maintaining and supporting these principles. When a student enrolls in Washington State University, the student assumes an obligation to pursue academic endeavors in a manner consistent with the standards of academic integrity adopted by the University. *To maintain the academic integrity of the community, the University cannot tolerate acts of academic dishonesty including any forms of cheating, plagiarism, or fabrication.* We will treat all such cases seriously, including class failure.

Washington State University reserves the right and the power to discipline or to exclude students who engage in academic dishonesty. To that end, the University has established rules defining prohibited academic dishonesty and the process followed when such behavior is alleged. These rules incorporate Washington State University's Academic Integrity Policy, the University-wide document establishing policies and procedures to foster academic integrity. This policy is applicable to undergraduate and graduate students alike, as it pertains to dishonesty in course work and related academic pursuits. In cases of dishonesty in research and original scholarship, the University's Policy and Procedural Guidelines for Misconduct in Research and Scholarship may take precedence over the policies and procedures contained herein.

Safety Information: Washington State University is committed to maintaining a safe environment for its faculty, staff, and students. Safety is the responsibility of every member of the campus community and individuals should know the appropriate actions to take when an emergency arises. In support of our commitment to the safety of the campus community the University has developed a Campus Safety Plan, http://safetyplan.wsu.edu. It is highly recommended that you visit this web site as well as the University emergency management web site at http://oem.wsu.edu/ to become familiar with the information.

Course Calendar

Date	Topic	Due by 9am
8/25	Syllabus / Research methods and expectations Service learning visitors	
9/1	Research methodology in aging: Ethics, acceptance Research group visitors	Service learning placement Literature survey topic (grads)
9/8	Aging, senses and health care Research group visitors	
9/15	Aging, senses and health care Research group visitors	
9/22	Ambient sensors and sensor networks Videos and discussion	Research project choices
9/29	Smart environments Smart home tour, participate in study	
10/6	Aging, mobility and exercise Meet with project teams	
10/13	Machine learning and activity learning Guest speaker	
10/20	Machine learning and activity learning Guest speaker	Guest speaker summary
10/27	Human factors and interfaces Designing for older adults	Guest speaker summary
11/3	Field trip to St. Luke's Rehabilitation Institute	Homework assignment
11/10	Wearable sensors, processing streaming data Quiz	
11/17	Field trip to technology lending library Meet with project teams	Literature survey (grads)
11/24	Thanksgiving	
12/1	Aging, cognition and everyday function Guest speaker	Service learning report
12/8	Service learning discussion Poster session	Guest speaker summary Poster (due 12/4 9am)
12/15		Report

Books on Gerontology (optional resources)

Lesnoff-Caravaglia, G. (editor). Gerontechnology: Growing Old in a Technological Society. Charles C. Thomas, 2007.

Harrington, T.L. & Harrington, M.K. Gerontechnology Why and How. Shaker Publishing B.V., 2000.

Burdick, D. & Kwon, S. Gerotechnology: Research and Practice in Technology and Aging. Springer, 2004.

Taipale, V., Charness, N., & Graafmans, J.A.M. Gerontechnology: A Sustainable Investment in the Future. Ios, 1997.

Example Reading List: Will be updated

Bouma et al. (2007). Gerontechnology in perspective (2007). *Gerontechnology, 6(4),* 190-216.

Schmitter-Edgecombe, M., Seelye, A., & Cook, D. J. (2013). Technologies for health assessment, promotion and assistance: Focus on gerontechnology. In J. J. Randolph (Ed.), *Positive Neuropsychology: An Evidence-Based Perspective on Promoting Cognitive Health*. New York, NY: Springer Science and Business Media, LLC.

Nehmer, J., Becker, M., Kleinberger, T., & Prickner, S. (2010). Electronic emergency safeguards: sensor-based detection and prevention of critical health conditions. *GeroPsychology, 23(2),* 91-98.

Cavanaugh, J. C. & Whitbourne, S. K. Research Methods (Chapter 2) (1999). In Gerontology: an Interdisciplinary Perspective. New York: Oxford University Press.

Hertzog. C. & Light, L. (2004). Methodological issues in the assessment of technology use for older adults (Chapter 4). In R. W. Pew & S. B. Van Hemel (Ed). Technology for adaptive aging, pp 93-127.

Zwijsen, S. A., Niemeijer, A. R., & Hertogh (2011). Ethics of using assistive technology in the care for community-dwelling elderly people: An overview of the literature. *Aging and Mental Health, 15(4),* 419-427.

Chen, K. & Chan, A. H. S. (2011). A review of technology acceptance by older adults. *Gerontechnology, 10(1),* 1-12.

Cacchione, P. Z. (2008). Sensory Changes. In Capezuti et al (Ed.) Evidence-*based geriatric nursing protocols for best practice*.

Assistive Technologies for Functional Improvement (2010). *Center for Technology and Aging*.

Hartley et al. (2010). Use of hearing aids and assistive listening devices in an older Australian population. *Journal of the American Academy of Audiology, 21,* 642-653.

Luxton et al. (2011). mHealth for mental health: integrating smartphone technology in behavioral health. *Professional Psychology: Research and Practice, 42(6),* 505-512.

Unwin et al. (2009). Therapeutic home adaptations for older adults with disabilities. *American Family Physician, 80,* 963-969.

Boger, J., & Mihailidis, A. (2011). The future of intelligent assistive technologies for cognition: Devices under development to support independent living and aging-with-choice, *NeuroRehabilitation, 28,* 271-280.

Krieg-Bruckner et al. (2010). Mobility assistance in the Bremen ambient assisted living lab. GeroPsychology, 23(2) 121-130.

Bagala` F, Becker C, Cappello A, Chiari L, Aminian K, et al. (2012) Evaluation of Accelerometer-Based Fall Detection Algorithms on Real-World Falls. *PLoS ONE 7(5)*: e37062. doi:10.1371/journal.pone.0037062

Aarhus, R., Gronvall, E., Larsen, S. B., & Wollsen, S. (2011). Turning training into play: embodied gaming, seniors, physical training and motivation. *Gerontechnology, 10(2*),110-120; doi:10.4017/gt.2011.10.2.005.00

Drag, L. L., & Bieliauskas, L. A. (2009). Contemporary review 2009: cognitive aging. *Journal of Geriatric Psychiatry and Neurology, 22(2)* 75-93.