**IE 590 00 Applied Ergonomics**  
**Fall 2019:** Wang Hall Room 2599; M,W,F 11:30-12:20pm (3 credits)  
(syllabus & schedule updated Wednesday, April 4, 2019)

**Instructor:** Vincent G. Duffy, Ph.D., CPE, Associate Professor, School of Industrial Engineering; Department of Agricultural & Biological Engineering, Purdue University. Grissom Hall 270; email: duffy@purdue.edu Phone: 1-765-496-6658. **Office Hours:** by appointment.

**Course description:** The human-technology interface will be studied and considered.


**Students who may be interested in the course include:** Engineering, Psychology, Technology/Polytechnic, Engineering Education, Health & Human Sciences and Management. Students should be at least at senior status, with interest in research. Graduate students will gain preparation & experience that will support current or future thesis and dissertation efforts.

**Learning Objectives:** Students will analyze and synthesize knowledge of fundamentals in ergonomics, human factors, human-computer interaction, the innovation process, active learning methods and information literacy techniques such as bibliometric analysis, content analysis and cluster analysis. Supplementary readings will emphasize applications of ergonomics in design considerate of knowledge of computer sciences, information sciences and psychological principles. Students will apply methods to analyze research and existing designs, as well as demonstrate their ability to create new knowledge through content analysis.

**Grading:** Homework (50%), Presentations (10%) will be 2 article summaries based on a “List of 10 Ways to Evaluate New and Existing Research” (including content analysis and review and reappraisal report; A review session and study guide will be provided in advance of the mid-term (worth 20% total). Exam preparation will incorporate gamification and game-based learning. Final grades will include a Final Project (20%) with report based on customized information content and content analysis; Presentation slides should be submitted as a record of presentation on the same day as the presentation. Presentations (2) will be 5-6 minutes each will be made in ‘embedded audio’ powerpoint to allow contributions from off campus students. For the first presentation, scores will be based on adherence to a prescribed format for preparing chapter-based presentations and second presentation will be scored according to adherence to a “List of 10 ways to Analyze New & Existing Research” that will be introduced in lessons. Late materials will have a deduction. There will be no final exam. Feedback about the final project will be given during a session for “progress report” to be given during final exam week (exam timeslot) for on-campus students or agreed time for off-campus students.

**Supplementary reading:** supplementary list of articles will be provided. Those can be downloaded through e-journals using Purdue ID & Password in Purdue Libraries. A subset of articles will be reviewed in class using a “List of 10 Ways to Analyze New & Existing Research”.

**Supplementary Software:** RAMSIS (Human Modeling software), Tobii Pro (eye tracking), Various familiar APPs (screen captures available in class); Data Mining and Content Analysis (using Bibliometric methods Meta data in software such as BibExcel, VOS-Viewer, CiteSpace (for visualizing) & MaxQDA. All are downloadable or accessible on Smart phone or personal computer.

**Course web site:** will be announced following Purdue’s confirmation about switch to new learning management system at Purdue.
**Grades:** Grading will take into account +/- . For instance, overall course scores averaging 98+ will receive A+. 94-97 will be guaranteed A. 90-93 will be guaranteed A-. 88-89 will be guaranteed B+. 84-87 will be guaranteed, B; 80-83 will be guaranteed B-; 78-79 will be guaranteed C+; 74-77 C; 70-73 C-. Lower scores may receive D or F. Cheating will be defined according to the student code of conduct and will result in zero for assignment or F course grade. Please ask in advance if any clarification is needed. Please see additional information about student code of conduct and Title IX information recommended by Purdue Student Government on bottom of this page on syllabus. Use of ‘crib sheets’ and any joint lab work or report will be described and announced in advance.

By the two statements below, it is implied that 1. Student representatives are in agreement that students should maintain highest standards of conduct and should maintain high expectation of one another in regard to conduct. It is important that each student have the sense that they are welcome to be part of the team as contributors. In the event that students are made to feel unwelcome or intimidated based on race, ethnicity or gender, matters brought to my attention will be considered as part of Title IX in regard to fair access to education. We have mentioned that we believe that team projects contribute to learning and certainly, we want all students to have fair access to those opportunities for learning that include fair treatment within activities that take place inside and outside of the classroom as part of IE590 Applied Ergonomics.

The statements below highlight wording recommended by Purdue Student Government (PSG) for code of conduct and two options that include Title IX reporting and other consult related advice seeking that does not initially require reporting and is confidential (CARE).

Revised and Adopted by PSG (originally published October 2010; re-emphasized in video April 2017).

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"The purpose of the Purdue University academic community is to discover and disseminate truth. In order to achieve these goals, the university commits itself towards maintaining a culture of academic integrity and honesty. For this to be possible, self-discipline and a strong desire to benefit others must be present within each individual. Therefore, we students must follow the Regulations Governing Student Conduct of Purdue University out of a sense of mutual respect rather than out of fear of the consequences of their violation."

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Therefore, be it RESOLVED,

that Purdue Student Government encourages faculty to include a clause in their syllabi outlining their role as a mandatory reporter to the Title IX office and additional resources available to students seeking help.

That information is recommended to appear as follows:

Purdue University is devoted to fostering a secure, equitable, and inclusive community. If you or someone you know has been the victim of sexual violence and are interested in seeking help, there are services available. Reporting the incident to any Purdue faculty and certain other employees, including resident assistants, will lead to reference to the Title IX Coordinator, as these individuals are mandatory reporters. The Title IX office can investigate reports of sex-based discrimination, sexual harassment, or sexual violence. Title IX ensures that both parties in a reported event have equal opportunity to be heard and participate in a grievance process. To file an online report visit https://cm.munireport.com/reportingform.php?Purdue1 nav&layout_id=15 or contact the Title IX coordinator at 765-494-7255.

The Center for Advocacy, Response, and Education (CARE) offers confidential support and advocacy that does not require the filing of a report to the Title IX office. The CARE staff helps each survivor assess their reporting options and access resources that meet personal needs. The CARE office can be found at 200 North Russell Street in Duhamel Hall (Windsor), room 143 Monday – Friday 8:00 AM to 5:00 PM. They can also be reached at their 24/7 hotline 765-495-CARE or at CARE@purdue.edu.

and that Purdue Student Government deliver this resolution to the Student Affairs Committee of the University Senate for consideration.

Student Body President
Student Senate President

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**Emergencies:**

If an emergency is inside (eg. fire), please plan to go outdoors. If the emergency is outside, please plan to stay indoors.

If there is an emergency, Dr. Duffy and TAs plan to stay with the class. However, in the event that they are not available to join the class you may consider the following. In general, if the emergency is inside and we are not in ‘lockdown’, please leave Wang Hall.