Course Syllabus

Course Description
Review of the principles and practices of ergonomics as it applies to the industrial environment. Demonstrates how to collect data on users and operators and how to convert the data to good workplace design.

Course Textbook(s)

Course Learning Outcomes
Upon completion of this course, students should be able to:

1. Specify and design ergonomically appropriate industrial workstations for the industrial and office work environment.
2. Identify information-centered human factors relating to visual, illumination, controls, displays, and symbols.
3. Compare, contrast, and assess human body-centered ergonomic designs for posture, material handling, repetitive motion factors, heat stress, noise, and vibration.
4. Examine and evaluate organizational or management-centered ergonomic factors for training, skills, and cognitive task analysis.
5. Define the ergonomic factors intrinsic in evaluating accidents, human errors, and safety related incidents.
6. Illustrate and assess the ergonomic factors in computer work station design.
7. Discuss and identify key components of cost-benefit analysis in human factors and ergonomic design.
8. Summarize key components in conducting a human factors or ergonomics related investigation.

Academic Integrity
Honesty and integrity are taken very seriously at Waldorf University. All students should be familiar with the Waldorf University Academic Integrity Policy (found in the current Student Handbook) and the consequences that will result from breaches of this policy.

Credits
Upon completion of this course, the students will earn 3 hours of college credit.

Course Structure
1. Study Guide: Course units contain a Study Guide that provide students with the learning outcomes, unit lesson, required reading assignments, and supplemental resources.
2. Learning Outcomes: Each unit contains Learning Outcomes that specify the measurable skills and knowledge students should gain upon completion of the unit.
3. Unit Lesson: Unit Lessons, which are located in the Study Guide, discuss lesson material.
4. Reading Assignments: Units contain Reading Assignments from one or more chapters from the textbook and/or outside resources.
5. Suggested Reading: Suggested Readings are listed within the Study Guide. Students are encouraged to read the resources listed if the opportunity arises, but they will not be tested on their knowledge of the Suggested Readings.
6. Learning Activities (Non-Graded): Non-Graded Learning Activities are provided to aid students in their course of study.
7. Discussion Boards: Discussion Boards are part of all Waldorf courses. Information and specifications regarding these assignments are provided in the Course Policies listed in the Course Menu bar.
8. **Unit Assessments:** This course contains Unit Assessments, which test student knowledge on important aspects of the course. These tests may come in many different forms, ranging from multiple choice to written response questions.

9. **Unit Assignments:** Students are required to submit for grading Unit Assignments. Specific information and instructions regarding these assignments are provided below. Grading rubrics are included with each assignment. Specific information about accessing these rubrics is provided below.

10. **Ask the Professor:** This communication forum provides you with an opportunity to ask your professor general or course content related questions.

11. **Student Break Room:** This communication forum allows for casual conversation with your classmates.

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**Unit Assignments**

**Unit I Homework**

In Unit I, we discussed the definition of ergonomics and the role of ergonomics in our professional lives. For the Unit I Homework assignment, you will expand on those concepts a bit further and focus on how ergonomics can affect different types of workstations.

In one Word document, write responses to the following items. Use APA to cite and reference all outside sources, including the textbook. Please label each section for clarity using APA headings:

1. Describe the relationship between proper ergonomic design and your workstation; include a real-world example.
2. Explain how ergonomics, if not properly applied, can affect your life short-term or long-term. (Note: You may consider your study work station or your workstation at your place of employment.)
3. Amy works for a large variety store in your area. Her work tasks include standing at the cash register (checkout counter) for extended periods of time. She is responsible for scanning items and placing them into bags or the customer’s cart. Some of these items can be heavy. Describe some of the areas within this workstation where this employee could be injured. Describe what actions the employer might take to relieve some of these hazards.
4. Adam, a 25-year-old Caucasian male, is an employee working in the automotive section of a large variety store. Using the tables found in Chapter 3, provide a hypothetical description of Adam that would place him in the 50th percentile for height, weight, waist circumference, and body mass index. Provide exact measurements for Adam, using the 50th percentile columns. Explain one area where these measurements might be of use for the employer as it relates to this employee.

You should answer each question using a one- to two-paragraph response. All items combined must be a minimum of two pages in length.

Information about accessing the grading rubric for this assignment is provided below.

**Unit III Assignment**

In the Unit III Lesson, we presented the problems that Amy is facing in her current workstation. Amy, who works as a cashier in a big-box store, works 8-hour shifts but is often asked to work overtime for up to 4 hours. Amy is now experiencing knee, hip, and lower back pain after working.

You have been asked to assemble a team to address the ergonomics issues Amy is facing and to explain a possible solution. Your assignment should meet the following criteria:

1. Identify and explain the different roles within the team (you may use bullets for this section).
2. Explain how the ergonomics team can work together to help Amy with her current workstation. Include a possible suggestion to improve Amy’s workstation as part of your discussion.
3. Explain why it is important for the ergonomics team to implement a plan that considers potential discrimination or disability issues for other employees.

This assignment should be at least two pages in length. Outside sources are not a requirement for this assignment. You are expected to complete this assignment based upon your reading, experience, and opinions.

Information about accessing the grading rubric for this assignment is provided below.

**Unit IV Assignment**

**Course Project Part 1: Ergonomics Hazard Assessment**

In Units IV, VII, and VIII, you will be building a course project that will assess ergonomic risks and provide strategies to improve a workstation of your choice. Your final project will be a PowerPoint presentation due in Unit VIII. During Unit IV, you will focus on the ergonomics-related hazard assessment.

Select a workstation that you are familiar with (preferably one that you work with regularly or have worked with previously). Perform an ergonomics hazard assessment on that workstation. What are the potential stressors of that workstation? What are the potential ergonomic risks and hazards? What type of injury could they cause? Explain each hazard in detail.

Your ergonomics hazard assessment should be a minimum of two pages in length. As part of your hazard assessment, you will include a minimum of two outside sources to support your findings. One source must be from the Occupational Health and Safety Administration (OSHA) or a related field.

Information about accessing the grading rubric for this assignment is provided below.
Safety and Health Administration (OSHA) website, which can be accessed by clicking the following link:
https://www.osha.gov/

Information about accessing the grading rubric for this assignment is provided below.

Unit VII Assignment

Course Project Part 2: Determining Safety

In Unit IV, you began a course project in which you reviewed the risks associated with your workstation of choice. During this unit, you will build upon that project to identify whether or not your workstation is ergonomically sound and to determine how the safety can be improved.

Start by documenting your findings and comparing them to the tables found in the textbook. Make a determination as to whether your space is ergonomically safe. Look specifically at the Rapid Upper Limb Assessment (RULA) and the Rapid Entire Body Assessment (REBA). Next, make suggestions for how it can be improved.

Finally, conduct research on ergonomics-related regulatory efforts and standards. Are there recommended safety standards or Occupational Safety and Health Administration (OSHA) recommendations? What are they? Also, explain if you feel the safety standards are enough to keep employees safe or if more needs to be done. (Hint: Make sure you read the Unit VII Lesson!)

Your assignment should be a minimum of two pages in length. All sources must be cited and referenced according to APA standards.

Information about accessing the grading rubric for this assignment is provided below.

Unit VIII Course Project

Course Project Part 3: PowerPoint Presentation

In Units IV and VII, you explained a workstation and identified whether or not you thought it was ergonomically safe. For this assignment, imagine that you are an organization’s safety professional and are explaining the issues you noted previously regarding the workstation. Additionally, you will include strategies for improving the safety of the employees, and you will make recommendations for what management can do to address the ergonomics issues specific to the organization. (Hint: Make sure that you read the Unit VIII Lesson!)

Your PowerPoint presentation must be a minimum of 10 slides in length, not counting the title and reference slides. Additionally, you must use at least your textbook as an outside source, and all sources used must be cited and referenced according to APA standards.

Additionally, you will include audio along with your PowerPoint in order to fully explain your ideas and suggestions. If you are unfamiliar with adding audio to a PowerPoint presentation, click here to access a helpful tutorial.

If you are unable to add audio to your PowerPoint, you will use the notes section to further explain your ideas.

Information about accessing the grading rubric for this assignment is provided below.

Submitting Course Papers/Projects

Once you have completed your papers/projects, submit your completed papers/projects by uploading through the Assignment tab in each unit. Do not e-mail your paper directly to your professor. By using the Assignment tab, your record will automatically be updated to indicate you have submitted your papers/projects, and the assignment will be provided to your professor for grading. Instructions for submitting your assignment can be found under the Assignment tab in each unit.

APA Guidelines

Waldorf College requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. Information about using APA style can be found in APA Style Help in the Course Menu. This area provides links to Internet sites, tutorials, and guides that provide comprehensive information on APA formatting, including examples and sample papers.

Grading Rubrics

This course utilizes analytic grading rubrics as tools for your professor in assigning grades for all learning activities. Each rubric serves as a guide that communicates the expectations of the learning activity and describes the criteria for each level of achievement. In addition, a rubric is a reference tool that lists evaluation criteria and can help you organize your efforts to meet the requirements of that learning activity. It is imperative for you to familiarize yourself with these rubrics because these are the primary tools your professor uses for assessing learning activities.
Rubric categories include: (1) Discussion Board, (2) Assessment (Written Response), and (3) Assignment. However, it is possible that not all of the listed rubric types will be used in a single course (e.g., some courses may not have Assessments).

The Discussion Board rubric can be found within Unit I’s Discussion Board submission instructions.

The Assessment (Written Response) rubric can be found embedded in a link within the directions for each Unit Assessment. However, these rubrics will only be used when written-response questions appear within the Assessment.

Each Assignment type (e.g., article critique, case study, research paper) will have its own rubric. The Assignment rubrics are built into Blackboard, allowing students to review them prior to beginning the Assignment and again once the Assignment has been scored. This rubric can be accessed via the Assignment link located within the unit where it is to be submitted. Students may also access the rubric through the course menu by selecting the “Grades” link.

Again, it is vitally important for you to become familiar with these rubrics because their application to your Discussion Boards, Assessments, and Assignments is the method by which your instructor assigns all grades.

Communication Forums

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.

Ask the Professor

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.

Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

Student Break Room

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.

Schedule/Grading

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
### Unit III: Elements of Ergonomics and Biomechanics

**Read/View:**
- Unit III Study Guide
- Chapter 6: Elements of Ergonomics Programs
- Chapter 7: Biomechanics

**Discuss:**
- Unit III Discussion Board
  - 2%

**Submit:**
- Unit III Assignment
  - 13%

### Unit IV: Psychophysics and Hand Tools

**Read/View:**
- Unit IV Study Guide
- Chapter 8: Psychophysics
- Chapter 9: Hand Tools

**Discuss:**
- Unit IV Discussion Board
  - 2%

**Submit:**
- Unit IV Assignment
  - 13%

### Unit V: Vibration and Industrial Workstation Design

**Read/View:**
- Unit V Study Guide
- Chapter 10: Vibration
- Chapter 11: Industrial Workstation Design

**Discuss:**
- Unit V Discussion Board
  - 2%

**Submit:**
- Unit V Assessment
  - 8%

### Unit VI: Manual Materials Handling and Work-Related Musculoskeletal Disorders

**Read/View:**
- Unit VI Study Guide
- Chapter 12: Manual Materials Handling
- Chapter 13: Work-Related Musculoskeletal Disorders
- Reading Assignment: (1 webpage) See Study Guide

**Discuss:**
- Unit VI Discussion Board
  - 2%

**Submit:**
- Unit VI Assessment
  - 8%

### Unit VII: How to Conduct an Ergonomic Assessment and Ergonomics in the Healthcare Industry

**Read/View:**
- Unit VII Study Guide
- Chapter 14: How to Conduct an Ergonomic Assessment and Ergonomic Assessment Tools
- Chapter 15: Ergonomics in the Healthcare Industry

**Discuss:**
- Unit VII Discussion Board
  - 2%

**Submit:**
- Unit VII Assignment
  - 12%

### Unit VIII: Getting Buy-In

**Read/View:**
- Unit VIII Study Guide
- Chapter 16: Case Studies

**Discuss:**
- Unit VIII Discussion Board
  - 2%

**Submit:**
- Unit VIII Course Project
  - 12%