

Title of Module:
Biomechanics

Coordinator(s) / organiser(s):
Mulyono, S.KM., M.Kes. (Module Leader)

Teaching Faculty

Title	Name	Qualifications*	Hours contributed
Mr.	Mulyono	S.KM., M.Kes.	14.39
drh.	Meirina Ernawati	drh., M.Kes.	11.76
Ms.	Endang Dwiyantri	Dra., M.Kes.	12.79
Mrs.	Indriati Paskarini	S.H., M.Kes.	14.39

* PhD, Master, 20 years service(in practice) etc. Only provide details for faculty responsible for 25% or more of course load.

Core / elective or optional:	Elective: Ergonomic and Work Physics I (KMK214) Ergonomic and Work Physics II (KMK306)
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Number of SKS credits allocated	Student's workload in hours	Contact work hours*	Self-study work hours
4 SKS	181.33	53.33	128

* includes lectures, seminars, face-to-face, assessments

Learning competences / objectives

On successful completion of this module students will be able to:

1. Define problems correctly about ergonomic and work physics
2. Evaluate integrity and comparability of data
3. Express the policy options and formulate them clearly and densely
4. Decide the appropriate action with the problem on the hand about ergonomic problems
5. Understanding the importance of a diverse worker's health

Syllabus content. Brief overview of syllabus using bullet points.

Ergonomic and Work Physics I:

- Basic concepts of ergonomics and entanglement
- Capacity of work and workload
- The relationship of man and machine
- Workplace design
- Work attitude and exhaustion, Work productivity, and Organizing work
- Display and VDT ergonomic
- Ergonomic risk assessment
- Anthropometry and physical freshness
- Decoration and music, the psychology of color

Ergonomic and Work Physics II:

- Measuring the mental load
- The measurement of physical Load
- Risk management of manual work handling
- Work RWL and LI
- Risk assessment of musculoskeletal system with the OWAS method, RULA, REBA and Nordic Body Map
- Time Motion Study

Module level timetable - indicate the timing of the teaching sessions from the upcoming teaching year:

Ergonomic and Work Physics I: 6th semester

Ergonomic and Work Physics II: 7th semester

Pedagogic/teaching methodology:

Scheduled learning includes lectures, discussions about the actual real life cases, and seminars in groups for applying problem solving techniques to solve real life issues which are given by lecturer. During lecture in the classroom, the lecturer gives the didactic question and creates a chance for students to deliver their thought about specific case. Students are asked to adapt the critical thinking for solving health problem.

In many meetings, the lecturer tends to ask the students making simulation for improving their capability understanding those topics.

Lecturer presents the teaching materials with LCD and whiteboard. Simulation means the lecturer gives various ergonomic problems to the students individually and the students have to solve the problem using ergonomic risk assessment method.

Independent learning includes hours engaged with essential reading, assignment preparation and completion and self-directed study. Students are provided with access to essential and supplementary learning via email or e-learning (AULA) and whiteboard.

Assessments used:

There are three types of examination:

1. Middle examination (40%)
2. Final examination (50%)
3. Structured assignment (10%)

Each examination takes 100 minutes includes multiple choice questions, essays, short answer questions, and case studies. The examination assesses the students' knowledge and understanding and all learning outcomes of the module. Structured assignment is given by writing a paper then the students present it.

	Number of weeks	Week number
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Weeks required and place in academic calendar:	16	17-32
Ergonomic and Work Physics I Weeks beginning 02/2020-05/2020	16	01-16
Ergonomic and Work Physics II Weeks beginning 08/2020-11/2020		