Module Descriptions

Module designation	*8420303076*
Semester(s) in which the module is taught	*4/ Fourth Yeaar*
Person responsible for the module	1. *Dra. Suliyanah, M.Si* 2. *Dr. Asnawi, M.Si* 3. *Lydia Rohmawati, M.Si* 4. *Utama Alan Deta, M.Pd., M.Si* 5. *Prof. Dr. Wasis, M.Si* 6. *Abu Zainuddin, M.Pd*
Language	*indonesia*
Relation to curriculum	*Compulsory*
Teaching methods	*lecture, lesson*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload: 136 work hours per-semester* *Contact hours:* a) *Lecture, exercise: 26.7 work hours per-semester ,* b) *Laboratory session: 45.3 work hours per-semester* *Private study including examination preparation: 64 work hours per-semester*
Credit points	*4.77 ECTS*
Required and recommended prerequisites for joining the module	*Physics Modern*
Module objectives/intended learning outcomes	*Key question: what learning outcomes should students attain in the module?* *E.g. in terms of:* - *Knowledge: familiarity with information, theory and/or subject knowledge* *Skills: cognitive and practical abilities for which knowledge is used* - *Competences: integration of knowledge, skills and social and methodological capacities in working or learning situations* *E.g.: "Students know that/know how to/are able to…"*
Content	*The Modern Physics course discusses the concepts/ principles/theories / basic laws of Modern Physics (physics content knowledge) which underlies the study material in the Physics curriculum of SMA / SMK in depth which includes Relativity, Particle Properties of Waves, Wave Properties of Particles, Structure Atom, Quantum Mechanics, Hydrogen Atom Quantum Theory, Multiple Electron Atom, Core Structure, Nuclear Transformation, as well as being able to communicate scientifically and work effectively both individually and in groups.*

Examination forms	*Essay*
Study and examination requirements	***Requirements for successfully passing the module:*** *a) Minimum attendance of 75%* *b) Minimum score of 55 out of 100*
Reading list	*1. Beiser A, 2003, "Consepts of Modern Physics", Sixth Edition. McGraw Hill Inter. BookCompany* *2. Supangkat, Haryadi, 1990. "Fisika Modern", Jurusan Fisika ITB.* *3. Wehr,M R.1980," Physics of The Atom" , Addison Wesley Manila*