Module designation	**Basic Science Concepts** **Indonesian title:** *Konsep Dasar IPA* **Course code:** 8420202231
Semester(s) in which the module is taught	Semester 1 (First year)
Person responsible for the module	**Coordinator:** Beni Setiawan, S.Pd., M.Pd., Ph.D. **Teaching staff:** Ahmad Qosyim, S.Si., M.Pd.; Beni Setiawan, S.Pd., M.Pd., Ph.D.; Tutut Nurita, S.Pd., M.Pd.; Dr. An Nuril Maulida Fauziah, S.Pd., M.Pd.; Enny Susiyawati, S.Si., M.Sc., M.Pd., Ph.D.; Dyah Permata Sari, S.Pd., M.Pd.; Ahmad Fauzi Hendratmoko, M.Pd.; Ernita Vika Aulia, S.Pd., M.Pd.; Fikky Dian Roqobih, S.Pd., M.Pd.
Language	Indonesian
Relation to curriculum	Compulsory
Teaching methods	Lectures, tutorial assignments, and individual study **Media and tools:** Slides and LCD projectors, whiteboard
Workload (incl. contact hours, self-study hours)	**(Estimated) total workload:** 2 CU × 170 minutes × 16 weeks = 5,440 minutes = 90.67 hours (≈ 3.18 ECTS) **Contact hours:** lectures, 2 × 50 minutes per week × 16 weeks = 26.67 hours (class hours per week: 340 minutes = 5.67 hours, including structured activities) **Private study including examination preparation:** structured assignments, 2 × 60 minutes per week × 16 weeks = 32.00 hours; independent study, 2 × 60 minutes per week × 16 weeks = 32.00 hours (total 64.00 hours)
Credit points	2 CU (3.18 ECTS) *1 CU = 170 minutes per week × 16 weeks = 45.3 hours; 1 ECTS = 28.48 hours (144 CU = 229 ECTS), so 1 CU = 1.59 ECTS (UNESA Rector's Decree No. 736/HK/KM/2023).*
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	**Programme learning outcomes (PLO) addressed:** • PLO-3: Develop logical, critical, systematic and creative thinking in carrying out specific work in the field of expertise and in accordance with the work competency standards in the relevant field. • PLO-10: Make decisions based on data/information in completing tasks that are the student's responsibility and evaluating the work that has been done.
Content	Studying the basic understanding of Natural Sciences. This course covers basic concepts in Natural Sciences such as the properties of matter, changes in matter, energy, and interactions between objects. Its scope includes understanding basic of Natural Sciences concepts, the application of concepts in everyday life, and the relationship between Sciences and Mathematics. By taking this course, students are expected to understand the importance of Natural Sciences in everyday life and develop scientific thinking skills.
Examination forms	Final score is calculated from the weekly assessment scheme below (CLO/PLO addressed and weight of each assessment):

Week	CLO	PLO	Weight (%)
1	CLO-2	PLO-3	5
2	CLO-3	PLO-3	5
3	CLO-2	PLO-10	5
4	CLO-3	PLO-3	5
5	CLO-1	PLO-10	5
6	CLO-2	PLO-3	5
7	CLO-2	PLO-3	5
8	CLO-4	PLO-3	15
9	CLO-3	PLO-10	5
10	CLO-3	PLO-3	5
11	CLO-3	PLO-3	5
12	CLO-3	PLO-3	5
13	CLO-3	PLO-3	5
14	CLO-3	PLO-3	5
15	CLO-3	PLO-3	5
16	CLO-3	PLO-3	15

Study and examination requirements

Students are considered competent and pass if the final score is at least 55 or C.

Final index (grade conversion):

Index	Converted score	Score range (A = final score)
A	4.00	85 ≤ A ≤ 100
A-	3.75	80 ≤ A < 85
B+	3.50	75 ≤ A < 80
B	3.00	70 ≤ A < 75
B-	2.75	65 ≤ A < 70
C+	2.50	60 ≤ A < 65
C	2.00	55 ≤ A < 60
D	1.00	40 ≤ A < 55
E	0.00	0 ≤ A < 40

Reading list

1. Kemdikbud. 2016. BS IPA SMP K13. Jakarta: Kemdikbud.
2. NRC. 2012. National Science Education Standards. Washington: NAP.
3. Rutherford, F.J. & Ahlgreb, A. 1990. Science for All American. New York: Oxford University Press.
4. Suryanti, Mintohari, Widodo, W. 2004. Pengembangan Pembelajaran IPA. Surabaya: Unesa University Press.
5. Tim MIPA Unesa. 2007. Sains Dasar. Surabaya: Unesa University Press.
6. Trefil, J.E. 2016. The Sciences: An Integrated Approach, 8th Edition. John Wiley & Sons.
7. Neser, L. 2022. Introduction to earth science. Virginia Tech Department of Geosciences in association with Virginia TechPublishing