

# MISSOURI EDUCATOR GATEWAY ASSESSMENTS

## Field 024 Physics

### Content Alignment Table

The Content Alignment Study below provides information about the alignment of knowledge and skills described in the competencies that make up the test framework for this licensure test with the state and national standards designated by the Department of Elementary and Secondary Education for this field. The table indicates those portions of the relevant state and/or national standards that are addressed -- in whole or in part -- by each competency.

Test Competency	Missouri Learning Standards for Science 9, 10, 11  Missouri Learning Standards for Science 6-8	NSTA Standards for Science Teacher Preparation 2011 (NSTA)  Next Generation Science Standards 2013 (NGSS)	Common Core State Standards for Mathematics (CCSS-Math)  Common Core State Standards for ELA & Literacy in History/Social Studies, Science, and Technical Subjects (CCSS-ELA)
0001 Understand the practices of scientific inquiry and engineering design.	Grades 9-11: S7.1.A-D	NSTA: S1.A.5.a.10; S1.A.5.b.21; S1.A.5.c.26  NGSS: Science and Engineering Practices 1-8; HS-ETS1 Engineering Design	CCCS-Math: HS-Statistics and Probability S-ID, S-IC; HS-Modeling; N-Q.1-3; 6.RP.1-3; 7.RP.1-3; 8.F.1-3; 8.EE.4
0002 Understand crosscutting concepts in the sciences and engineering.	Grades 9-11: S7.1.C-D; S8.2.A, D; S8.3.C-D	NSTA: S1.A.5.b.20; S1.A.5.c.23-25  NGSS: Crosscutting concepts 1-7	CCCS-ELA: Reading Standards for Literacy in Science and Technical Subjects grades 9-12, Standards 1-10
0003 Understand the relationships between science, technology, and human activity in a global context.	Grades 9-11: S8.1.B; S8.3.B-D	NSTA: S1.A.5.a.11; S1.A.5.b.19, 22  NGSS: HS-ESS1-3; HS-LS1-4; HS-PS1; HS-ETS1	
0004 Understand motion in one and two dimensions.	Grades 9-11: S2.1.A-B	NSTA: S1.A.5.a.2  NGSS: HS-PS2	CCSS-Math: A-CED; N-VM
0005 Understand forces as interactions and their effects on motion.	Grades 9-11: S2.2.A-B, D-E; S6.2.C-D	NSTA: S1.A.5.a.2-4; S1.A.5.b.14  NGSS: HS-PS2	CCSS-Math: A-CED; N-VM

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0006 Understand the conservation of energy and linear momentum.	Grades 9-11: S1.2.A-B, F; S2.2.C, F	NSTA: S1.A.5.a.1-2, 4; S1.A.5.b.14  NGSS: HS-PS2	CCSS-Math: A-CED
0007 Understand properties of the electric field.	Grades 9-11: S1.2.A-B, F; S2.2.C	NSTA: S1.A.5.a.9; S1.A.5.b.18  NGSS: HS-PS3-4	
0008 Understand properties of the magnetic field and electromagnetic induction.	Grades 9-11: S2.2.C	NSTA: S1.A.5.a.8-9  NGSS: HS-PS3-4	
0009 Understand properties of electric circuits.	Grades 9-11: S1.2.A, F	NSTA: S1.A.5.a.9; S1.A.5.b.18  NGSS: HS-PS3-4	CCSS-Math: A-CED
0010 Understand the fundamental properties of waves.	Grades 9-11: S1.2.A, C, F Grades 6-8: S1.2.A	NSTA: S1.A.5.a.8  NGSS: HS-PS4	CCSS-Math: A-CED
0011 Understand the characteristics of light and electromagnetic radiation.	Grades 9-11: S1.2.A, C; S6.1.C Grades 6-8: S1.2.A	NSTA: S1.A.5.a.8; S1.A.5.b.17  NGSS: HS-PS4	
0012 Understand thermal energy and the kinetic theory of matter.	Grades 9-11: S1.1.D; S1.2.A-B, F	NSTA: S1.A.5.a.6; S1.A.5.b.12  NGSS: HS-PS3	CCSS-Math: A-CED

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0013 Understand the fundamental principles of modern and nuclear physics.	Grades 9-11: S1.1.E; S1.2.A-B, E-F; S5.2.B	NSTA: S1.A.5.a.6-7; S1.A.5.b.13, 15-17  NGSS: HS-PS1, 3-4	CCSS-Math: A-CED