



Faculty	MATHEMATICS & NATURAL SCIENCE
Website	<a href="http://www.sci.ui.ac.id">http://www.sci.ui.ac.id</a> ; <a href="http://fisika.ui.ac.id/">http://fisika.ui.ac.id/</a>
Location	Department of Physic Fac. Of Maths and Natural Sciences Universitas Indonesia F Building Universitas Indonesia Campus, Depok 16424 Telp: 021 786 2610; Fax: 021 786 3441
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Educational Programs	Graduate Program (S2)
Study Program	Material Science (Ilmu Bahan-bahan)
Profile	Materials Science Program has been established since 1983, despite the legalization of organizing a new Master and Doctoral programs issued by the Director General of Higher Education of Indonesia through the Decree No.: 577/DIKTI/Kep/1993 on September 25, 1993. The study program adheres to the integration of education and research conducted by the unused portion of time impartial. Therefore, cooperation with research institutions, industry and universities both within and outside the country is a priority. In the course of the development of this course it turns out the majority of applicants came from industry, university lecturer and lover of materials science. To sharpen the research students of the study program is equipped with a Materials Science Research Centre in which there is a comprehensive research equipment.
Graduate Profile / Qualifications	<ol style="list-style-type: none"> <li>1. Capable of solving problems through scientific method and scientific attitude.</li> <li>2. Understand and be able to develop material properties and processes required for the desired purpose.</li> </ol>
Vision	Being one of the leading centers of education and research in Asia in the field of Materials Science and its application.
Mision	<ol style="list-style-type: none"> <li>1. Bridging different fields of scientific disciplines to materials science.</li> <li>2. Brought shades conducive to academic education and research conduct</li> <li>3. Embodies professionalism and entrepreneurial reliable in the application of materials science</li> <li>4. Gives stock of materials science and technology to the specialty metals, ceramics, composites, polymers and electronic and magnetic materials for students, in order to be able to conduct research and its application in society.</li> </ol>

	<p>5. Integrating education and research as a key pillar supporting activities that are innovative.</p> <p>6. Prepare students for further education and research in the field of material science.</p>
Speciality	<p>1. Metal and Alloy</p> <p>2. Polymers and Composites</p> <p>3. Ceramics and Glass</p> <p>4. Electronic and Magnetic Materials</p>
UI Program Code	03.06.03.01
Title	M.Si.
Accreditation	B
No. SK BANPT	012/BAN-PT/Ak-V/S2/VII/2007
Mode	Reguler
Study Period	4 Semester
Number of Credits	40 credits
Previous Education	Bachelor Degree, Sarjana (S1)
Description ***	<p>Department of Physics has a long history and tradition in education and research since its inception over 50 years ago by Decree of the Minister of Education and Culture No. 108 094 on December 21, 1960. Since then, the Department of Physics remains committed to providing high-quality education and research in the fields of physics and its application through the five areas of specialization are:</p> <ol style="list-style-type: none"> <li>1. Nuclear and Particle Physics</li> <li>2. Materials and Materials Physics Condensed</li> <li>3. Physics Instrumentation Electronics</li> <li>4. Geophysics and</li> <li>5. Medical Physics and Biophysics</li> </ol> <p>Now, ahead of the Physics Department of the age over half a century still remains active in participating in the development of the Republic of Indonesia through the development of human resources.</p>
Objective	<p>General:</p> <ol style="list-style-type: none"> <li>1. Having the ability to develop and implement a materials science through research;</li> <li>2. Able to increase the role of the profession;</li> <li>3. Having the ability to describe and formulate the resolution of community issues through scientific reasoning;</li> <li>4. Being open and responsive to change and the progress of science and technology as well as the problems facing society, especially in a related field.</li> </ol> <p>Special:</p>

	<p>1. Understanding the basics of the theory of materials science and its application; 2. Able to apply theoretical foundations of materials science research into concrete or into the management of materials available; 3. Able to teach the lower educational strata.</p>
List of Courses	<p>Tesis (SCMS802003)Ekonomi Teknik (SCMS801105)Ilmu Material Umum (SCMS801101)Kerja Laboratorium Lanjut (SCMS801106)Korosi dan Proteksi Material (SCMS801107)Kristalografi Material dan Teknik Difraksi (SCMS801103)Material Elektronik (SCMS801111)Material Keramik (SCMS801110)Material Komposit (SCMS801109)Material Lapisan Tipis (SCMS801115)Material Magnetik (SCMS801112)Material Nano (SCMS801116)Material Polimer (SCMS801108)Metode Komputasi Material (SCMS801113)Proses Manufaktur Logam dan Paduannya (SCMS801114)Publikasi Ilmiah (SCMS802120)Seminar (SCMS802001)Seminar (SCMS802004)Seminar Berkala (SCMS801120)Seminar Ilmiah (SCMS802002)Seminar Ilmiah 2 (SCMS801123)Termodinamika Material (SCMS801102)Transformasi Fasa Material (SCMS801104)Ujian Hasil Riset (SCMS801122)Ujian Proposal Riset (SCMS801121)</p>
Regulation	<ol style="list-style-type: none"> <li>1. Fullfil the requirement of admission Committee (SIMAK UI)</li> <li>2. Any Certificate Graduation from university abroad must obtain standar of equivalency from DIKTI</li> <li>3. Passing the English and Potential Academic</li> <li>4. Passing the interview examination</li> <li>5. For international students, permission letter from Ministry of Education of Indonesia is required</li> <li>6. For international students, certificate of BIPA from Faculty of Letters (FIB)UI is required</li> </ol>
How to Apply	<p>See <a href="http://www.penerimaan.ui.ac.id">http://www.penerimaan.ui.ac.id</a></p> <p>Graduates Degree (S1) from various related disciplines: Engineering (Materials; Civil; Electrical; Engineering; Industry; Metallurgy; Marine; Mining; Chemistry; Agriculture; Petroleum); Physics Engineering; Aeronautics; Geology and Geophysics; Physical Science Sci; pharmacy, and Biology. Having the ability to read and speak in English.</p>
Program Requirements	<ol style="list-style-type: none"> <li>1. Compulsory Faculty Courses: 10 credits</li> <li>2. Compulsory Material Science Course: 15 credits</li> <li>3. Compulsory Special Interest Courses: 15 credits</li> </ol>
Registration	<p>see <a href="http://www.penerimaan.ui.ac.id">http://www.penerimaan.ui.ac.id</a></p>

<p>Competence ***</p>	<ol style="list-style-type: none"> <li>1. Formulate the problem and settlement of general physics.</li> <li>2. Formulate the problem and settlement of physical mechanics, electricity and magnetism, thermodynamics, and modern physics.</li> <li>3. Applying the basic concepts of physics in general physics problem solving.</li> <li>4. Derive a formula specific to the problem being addressed.</li> <li>5. Perform analytical and numerical calculations.</li> <li>6. Describe the working principle of electronic components.</li> <li>7. Measure physical quantities.</li> <li>8. To process and interpret the data.</li> <li>9. Applying science and technology in the provision of value added to a product, either services or goods</li> <li>10. Applying the science of physics in the process of production and social life.</li> <li>12. Applying the basic concepts of physics.</li> </ol>
<p>Other Information</p>	<p>To support research kegiata Physics Department manages a number of laboratories with modern equipment such as: Modern physics, Parallel Computing, Theory of Nuclear and Particle Physics, Thin Films, X-ray, ESR, STEM, UV-VIS-NIR, Furnace, Materialography, Exploration Geophysics, interfacing, Instrumentasi, and control Systems, Telecommunications, Pneumatics and Hydraulics, Medical Physics.</p> <p>In the area of "community service, we are involved in the development and training such as: 1. Companion International School and Student Development and high school teachers, junior high and elementary schools in the Olympics; 2. Instrumentasi training and LabVIEW-based Electronics and CISCO networking; 3. Development of Nuclear Physics Theory with Parallel Computing, 4. Pelatihan and consulting in the field of Materials (Welding Inspector); 5. Development medical peralatan in several hospitals in Jakarta; 6. Consultant Pim oil and gas exploration, groundwater, mining, geothermal energy and the environment.</p>