

Student criteria for choosing the “right” Master program for their personal career at University Jena

	M.Sc. Physics	M.Sc. Photonics	M.Sc. Quantum Science & Technology	M.Sc. Medical Photonics
Admission requirements				
Degree	B.Sc. in Physics or equivalent.	B.Sc./B.Eng. in Physics, Electrical Engineering or related fields.	B.Sc./B.Eng. in Physics, Electrical Engineering or related fields.	B.Sc./B.Eng. in Biology, Chemistry, Physics, state exam in Medicine or equivalent.
Skills	Good knowledge in mathematics, electrodynamics, quantum mechanics, solid state physics as well as practical experience in experimental physics.	Good knowledge of mathematics, electrodynamics and experimental physics.	Good knowledge of mathematics, electrodynamics, and at least basic introduction to quantum mechanics, atomic and molecular physics, solid-state physics.	Good knowledge in either natural sciences or medicine.
Curriculum				
Subjects covered in the curriculum	<ul style="list-style-type: none"> ▪ Experimental and theoretical approaches in all established branches of physics ▪ Four specialization directions in research: optics and quantum electronics, solid state physics and material sciences, gravitational and quantum theory, astronomy and astrophysics 	<ul style="list-style-type: none"> ▪ Physical and technical principles of optics/photonics ▪ Experimental and theoretical approaches in photonics research ▪ Technical aspects for the development of optical systems 	<ul style="list-style-type: none"> ▪ Physical and technical principles of quantum mechanics and technology ▪ Theoretical and experimental approaches to quantum technology ▪ Technical aspects for the development of quantum hardware and technology 	<ul style="list-style-type: none"> ▪ Interdisciplinary training in optics, physical chemistry, biology and medicine ▪ Application and development of optical methods in the field of biology and medicine

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Degree of Internationalization	Partly internationalized, mainly designed for German students.	100% internationalized, i.e. specifically equipped to support non-German students.	100% internationalized, i.e. specifically equipped to support non-German students	100% internationalized, i.e. specifically equipped to support non-German students.
Modules for adjustment of students with different backgrounds		Adjustment modules provide insight into optics/photonics and optical properties of materials.	Adjustment modules provide basics of quantum physics, optics and solid-state physics.	Adjustment modules provide a basic training in optics/photonics and neighbouring disciplines.
Module catalogue	www.physik.uni-jena.de/en/studies/study-programs	www.asp.uni-jena.de/photonics-curriculum	www.asp.uni-jena.de/quantum-curriculum	www.medpho.uniklinikum-jena.de/medpho/en/Course+schedule
Career opportunities				
Academia	Graduates are qualified to enrol in Ph.D. programs in the field of physics offered by faculties of natural sciences.	Graduates are qualified to enrol in Ph.D. programs in the field of optics/photonics offered by faculties of natural sciences and engineering.	Graduates are qualified to enrol in Ph.D. programs in the field of physics and/or optics/photonics offered by faculties of natural sciences.	Graduates are qualified to enrol in Ph.D. programs offered by faculties of physics, chemistry and medicine.
Industry	Industry job opportunities are given in R&D in high-tech companies and engineering technologies.	Industry job opportunities are given in R&D in optics/photonics and engineering technologies.	Industry job opportunities are given in R&D in high-tech and engineering technologies.	Industry job opportunities exist in the optical sector, in the life sciences and especially at the interface between both disciplines.
Further information & contact				
Website	www.physik.uni-jena.de/en/studies/study-programs	www.asp.uni-jena.de/photonics-master	www.asp.uni-jena.de/quantum-master	www.uniklinikum-jena.de/medpho/en