

# Physics

<b>Year and Campus:</b>	2013																											
<b>Coordinator:</b>	Assoc Prof Jeffrey McCallum																											
<b>Contact:</b>	Email: <a href="mailto:msc@physics.unimelb.edu.au">msc@physics.unimelb.edu.au</a> (mailto:msc@physics.unimelb.edu.au)																											
<b>Overview:</b>	The Postgraduate Diploma program in Physics is designed to allow students to further their study of physics on a broad front, provide a pathway for entry into graduate study in Physics, and to engage students in their own research by participation in the activities of a research group in the School of Physics (coursework+research option). Prior study in Physics to at least 2nd year university level is assumed.																											
<b>Objectives:</b>	<ul style="list-style-type: none"> <li># increase students' knowledge of physics on a broad front and to a professional level;</li> <li># analyse how to solve a problem by applying simple fundamental laws to more complicated situations;</li> <li># develop independent and critical thinking skills.</li> </ul>																											
<b>Structure &amp; Available Subjects:</b>	<p>The Physics program consists of a:</p> <ul style="list-style-type: none"> <li># Coursework+Research Option (Coursework = 50 points, Research Project = 50 points)</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li># Coursework (100%) Option (Coursework = 100 points).</li> </ul>																											
<b>Subject Options:</b>	<p><b>Coursework+Research Option</b></p> <p><b>COURSEWORK</b></p> <p>Students must select four subjects from the following list in consultation with the Program Coordinator:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PHYC90007 Quantum Mechanics</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90008 Quantum Field Theory</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90012 General Relativity</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90013 Condensed Matter Physics</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90010 Statistical Mechanics</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90011 Particle Physics</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90009 Physical Cosmology</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>PHYC90006 Quantum and Advanced Optics</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table> <p>Other approved subjects at 300-level or higher.</p> <p>-</p> <p><b>RESEARCH</b></p> <p>Content: An original, supervised research project (experimental and/or theoretical) in one of the School's current fields: astrophysics, condensed matter physics, optical physics, particle physics and quantum physics.</p> <p>Assessment: A written report on the research performed during the year. Preparation and delivery of a 15 minute talk to the School of Physics on the research work.</p>	Subject	Study Period Commencement:	Credit Points:	PHYC90007 Quantum Mechanics	Not offered 2013	12.50	PHYC90008 Quantum Field Theory	Not offered 2013	12.50	PHYC90012 General Relativity	Not offered 2013	12.50	PHYC90013 Condensed Matter Physics	Not offered 2013	12.50	PHYC90010 Statistical Mechanics	Not offered 2013	12.50	PHYC90011 Particle Physics	Not offered 2013	12.50	PHYC90009 Physical Cosmology	Not offered 2013	12.50	PHYC90006 Quantum and Advanced Optics	Not offered 2013	12.50
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Depending on the coursework subjects taken a student would normally enrol in a combination of Research Project subjects as indicated below to ensure they have completed 50 points by the end of the course.

Subject	Study Period Commencement:	Credit Points:
PHYC40004 Physics Research Project	Semester 2	12.50
PHYC40002 Physics Research Project	Not offered 2013	25
PHYC40007 Physics Research Project	Not offered 2013	37.50
PHYC40008 Physics Research Project	Not offered 2013	50

### Coursework (100%) Option

#### COURSEWORK

Students must select eight subjects from the following list in consultation with the Program Coordinator:

Subject	Study Period Commencement:	Credit Points:
PHYC90007 Quantum Mechanics	Not offered 2013	12.50
PHYC90008 Quantum Field Theory	Not offered 2013	12.50
PHYC90012 General Relativity	Not offered 2013	12.50
PHYC90013 Condensed Matter Physics	Not offered 2013	12.50
PHYC90010 Statistical Mechanics	Not offered 2013	12.50
PHYC90011 Particle Physics	Not offered 2013	12.50
PHYC90009 Physical Cosmology	Not offered 2013	12.50
PHYC90006 Quantum and Advanced Optics	Not offered 2013	12.50

Other approved subjects at 300 level or higher.

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<b>Links to further information:</b>	<a href="http://graduate.science.unimelb.edu.au/">http://graduate.science.unimelb.edu.au/</a>
<b>Notes:</b>	This program has a start-year and a mid-year intake.
<b>Related Course(s):</b>	Postgraduate Diploma in Science