# zero module

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|---|---|
| Canonical name | ZeroModule |
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| Owner | antizeus (11) |
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| Entry type | Definition |
| Classification | msc 16D10 |
| Synonym | zero submodule |
| Related topic | ZeroIdeal |

Let $R$ be a ring.

The abelian group which contains only an identity element (zero) gains a trivial $R$-module structure, which we call the .

Every $R$-module $M$ has an zero element and thus a submodule consisting of that element. This is called the *zero submodule* of $M$.