

```
<attribute name="title" type="string" use="optional"/>
</complexType>
```

The meaning is that an element in an XML document that is declared to be of type `lecturerType` may have a title attribute; it may also include any number of `firstname` elements and must include exactly one `lastname` element.

Data Type Extension

Already existing data types can be extended by new elements or attributes. As an example, we extend the `lecturer` data type.

```
<complexType name="extendedLecturerType">
  <complexContent>
    <extension base="lecturerType">
      <sequence>
        <element name="email" type="string"
          minOccurs="0" maxOccurs="1"/>
      </sequence>
      <attribute name="rank" type="string" use="required"/>
    </extension>
  </complexContent>
</complexType>
```

In this example, `lecturerType` is extended by an `email` element and a `rank` attribute. The resulting data type looks like this:

```
<complexType name="extendedLecturerType">
  <sequence>
    <element name="firstname" type="string"
      minOccurs="0" maxOccurs="unbounded"/>
    <element name="lastname" type="string"/>
  </sequence>
  <attribute name="rank" type="string" use="required"/>
</complexType>
```