

Software Engineering Essentials

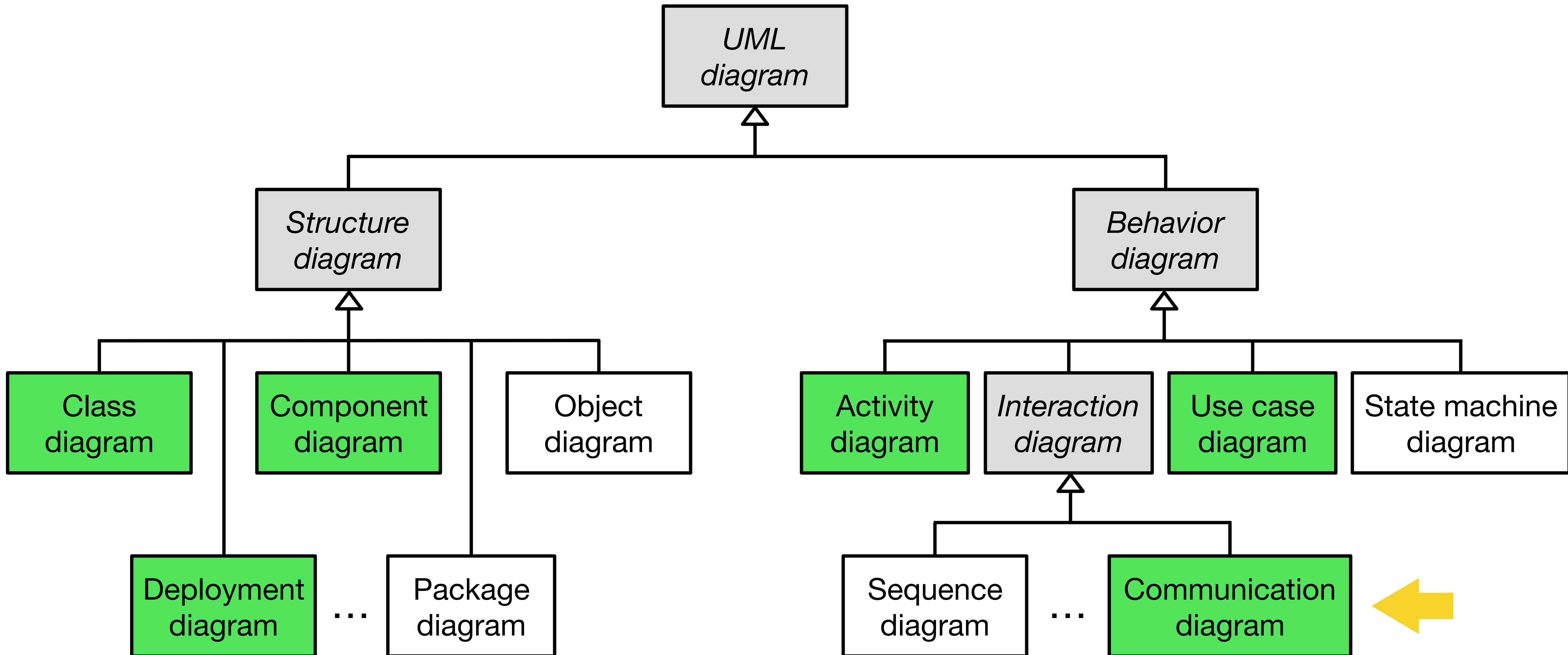


UML Communication Diagram

Bernd Bruegge, Stephan Krusche, Andreas Seitz, Jan Knobloch
Chair for Applied Software Engineering — Faculty of Informatics



UML diagrams covered in this course



From Class Diagrams to Communication Diagrams

Class diagram

Shows the layout of classes and their associations

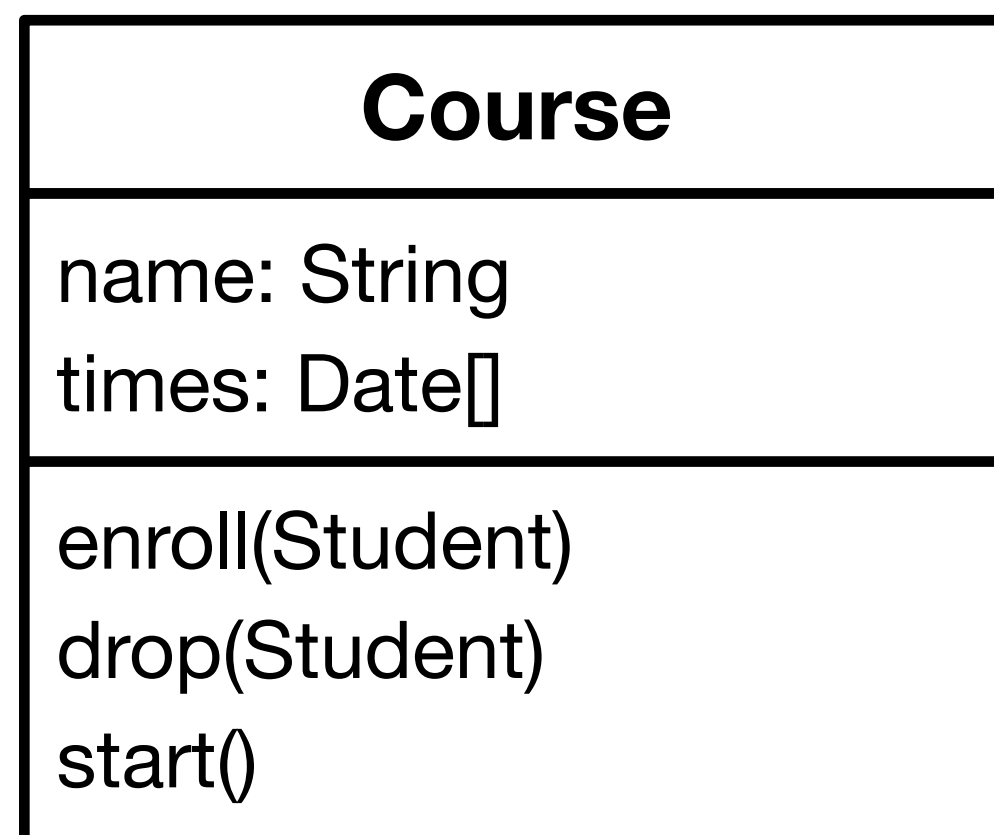
Communication diagram

Shows the interaction between multiple objects (= instances of classes)

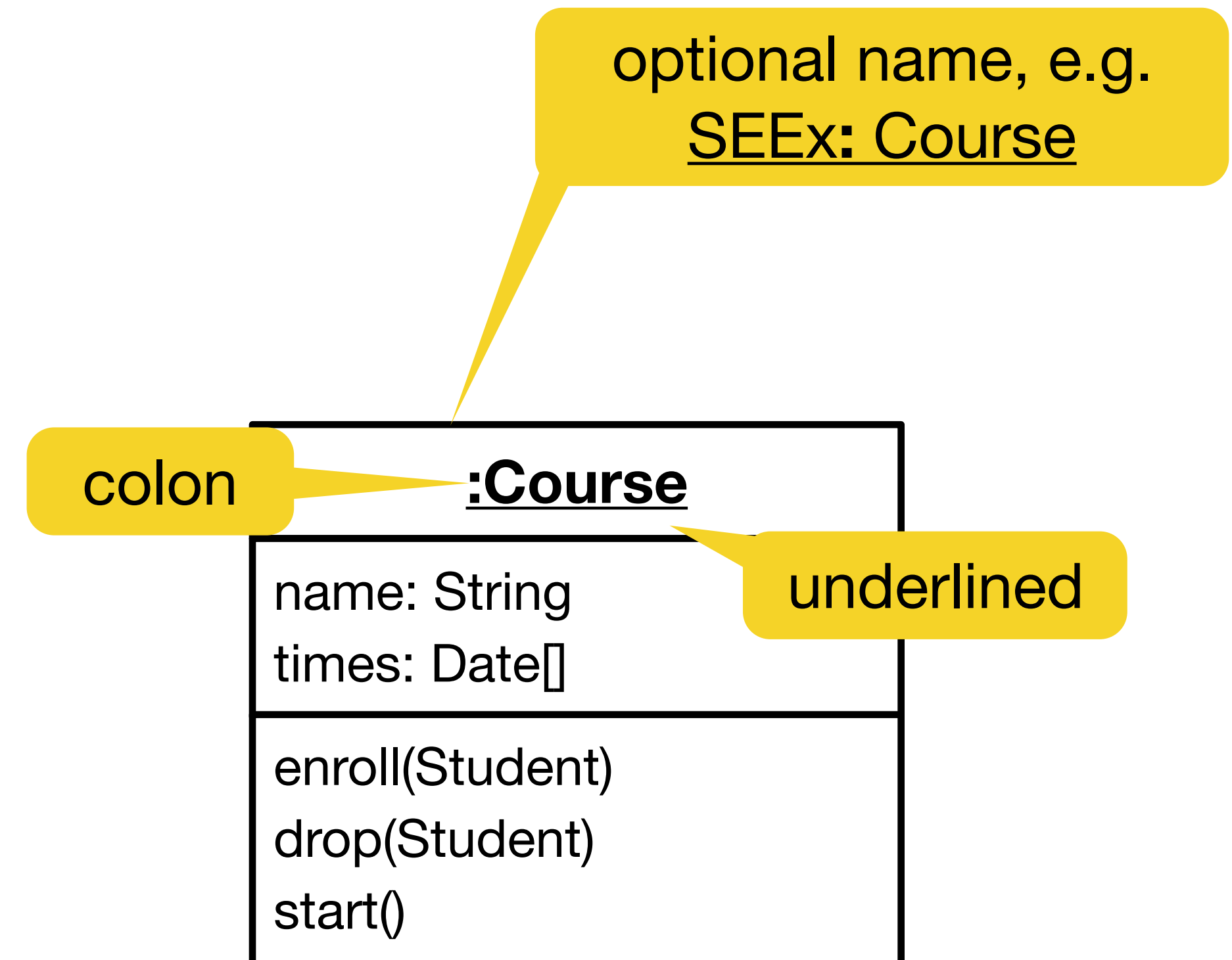
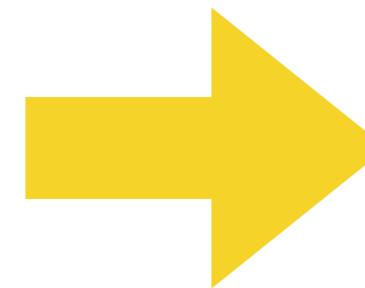
- Illustrates the **flow of messages** between the objects using the same layout as the class diagram
- In comparison: UML sequence diagrams use lifelines (different layout than class diagrams and therefore more difficult to understand)

Not covered in this course

Objects: Instances of Classes



Class

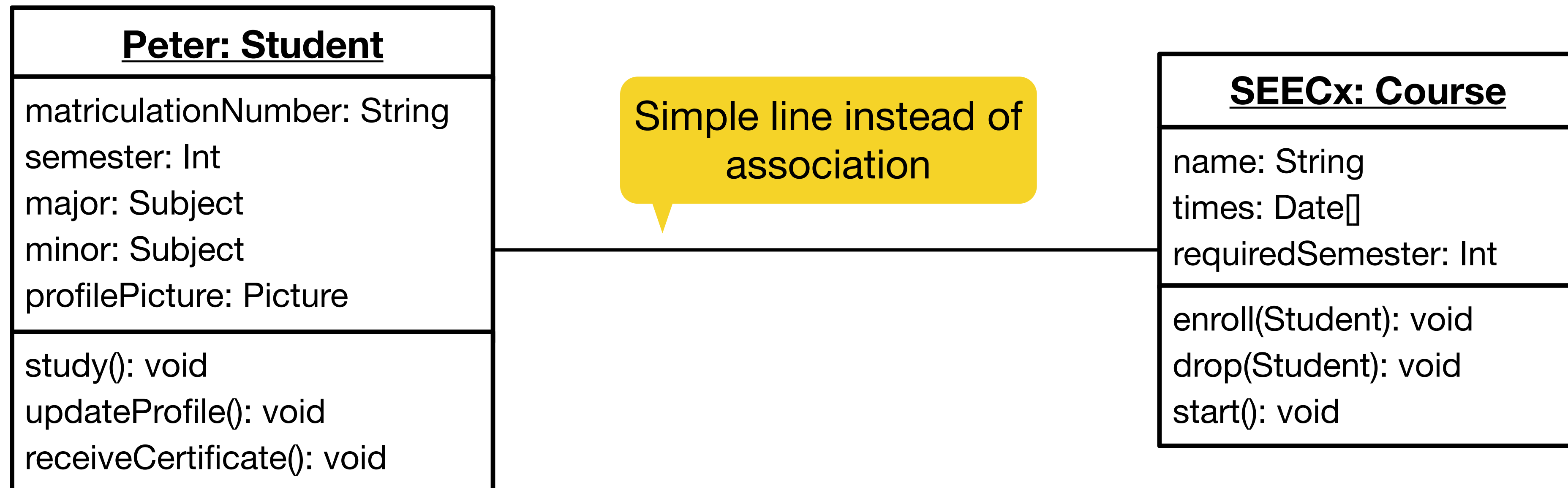


Object

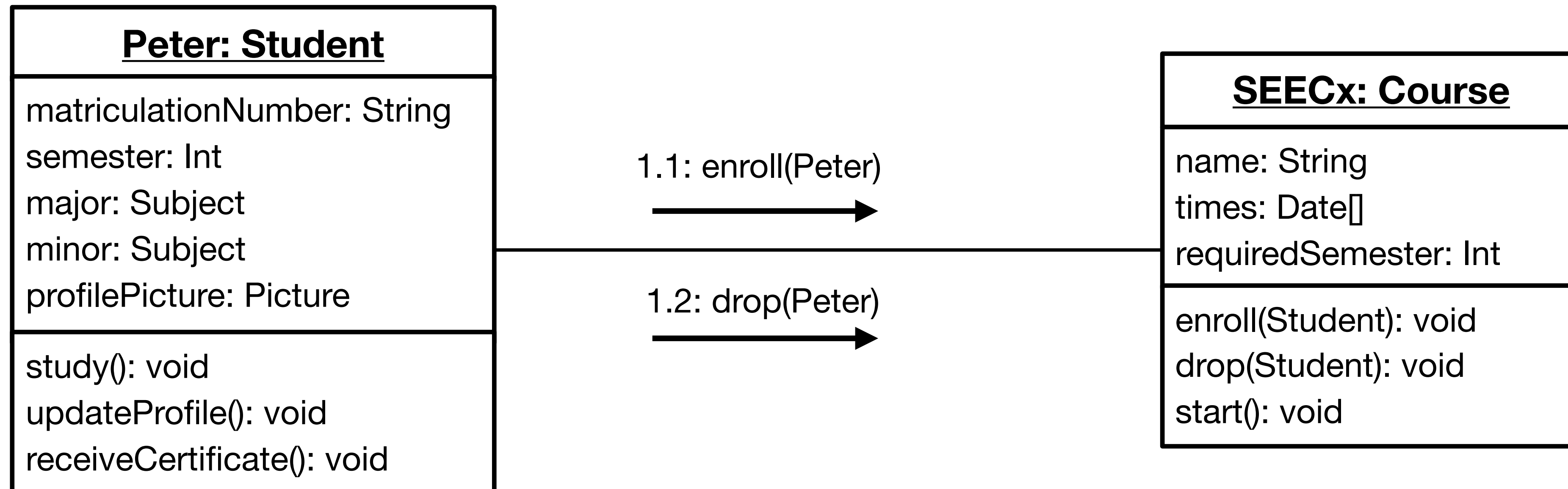
Messages in Communication Diagrams

3 different types of messages:

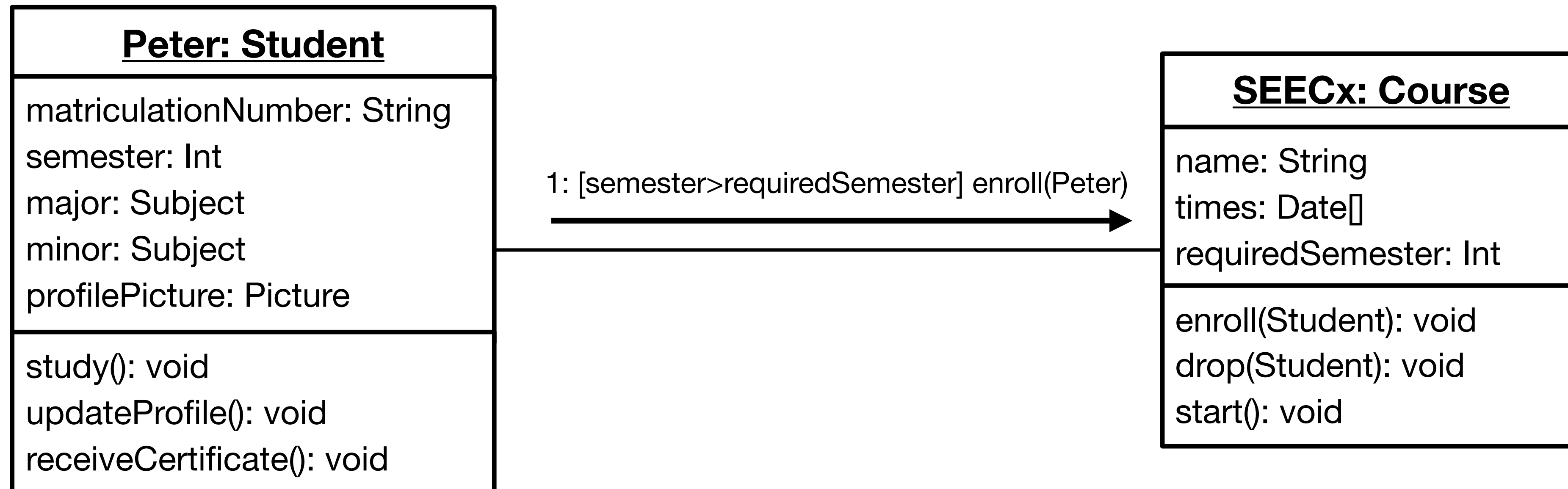
- 1) Sequential message
- 2) Conditional message
- 3) Concurrent message



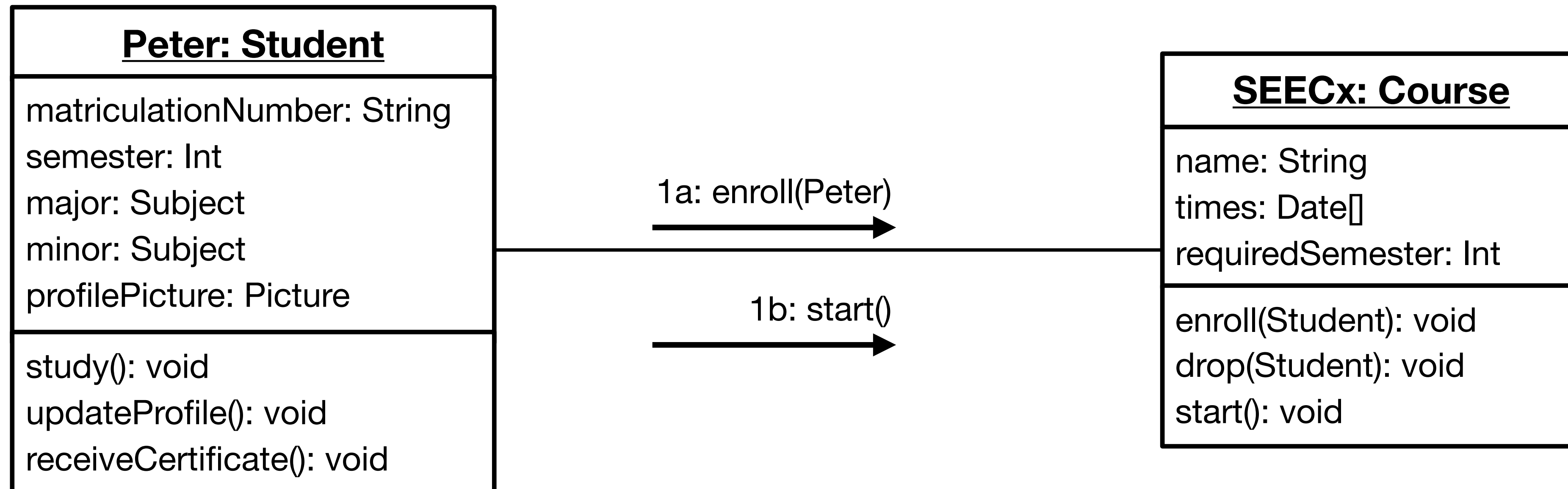
Sequential Messages in Communication Diagrams



Conditional Messages in Communication Diagrams



Concurrent Messages in Communication Diagrams



From Class Diagrams to Communication Diagrams

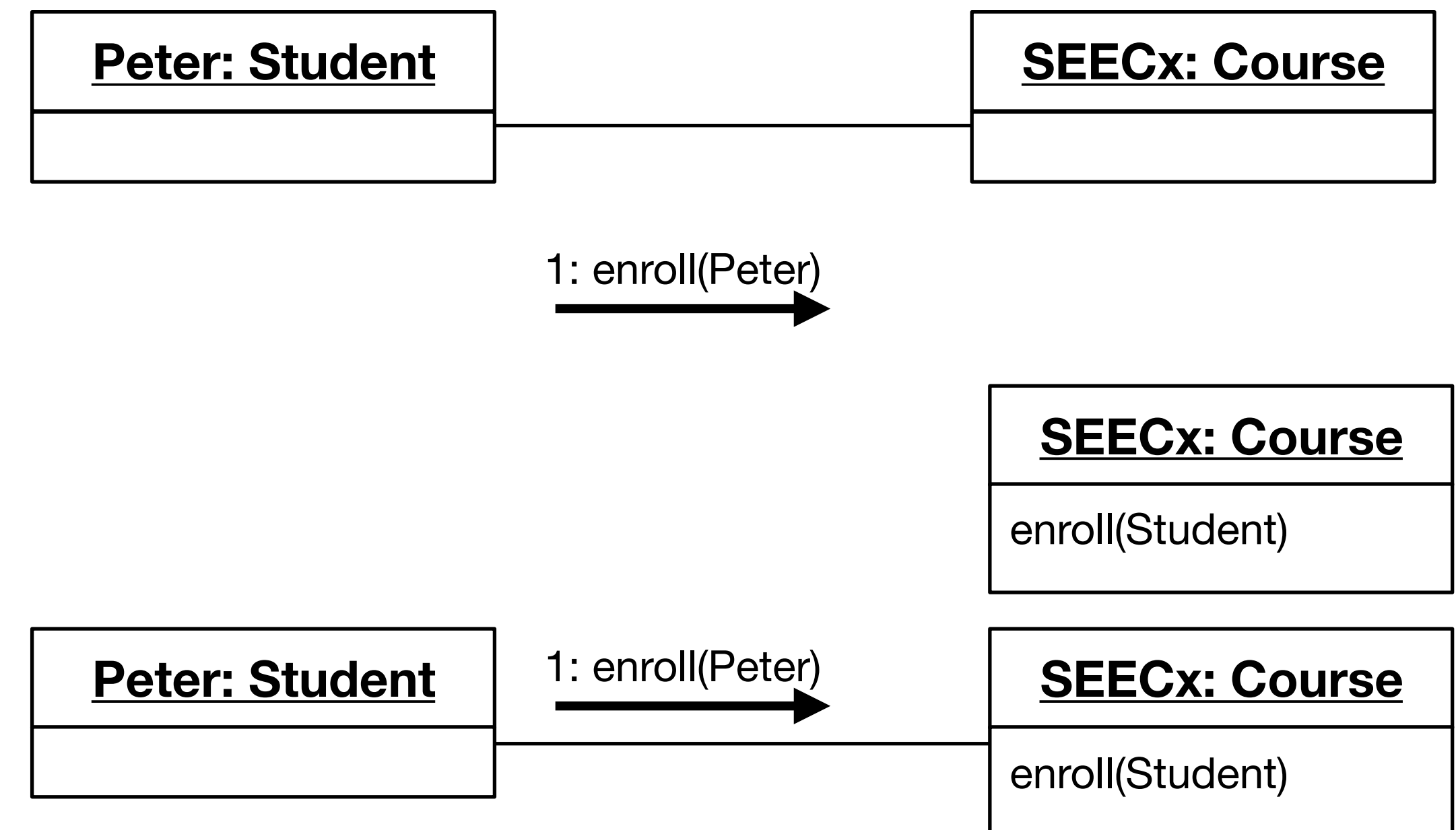
Actions:

1. Take all the steps from the event flow from one of the scenario
2. Instantiate the participating objects
3. Number the messages from each of the steps of the event flow
4. Check if there is a corresponding method in the receiver of the message?
5. Draw the message from sender to receiver

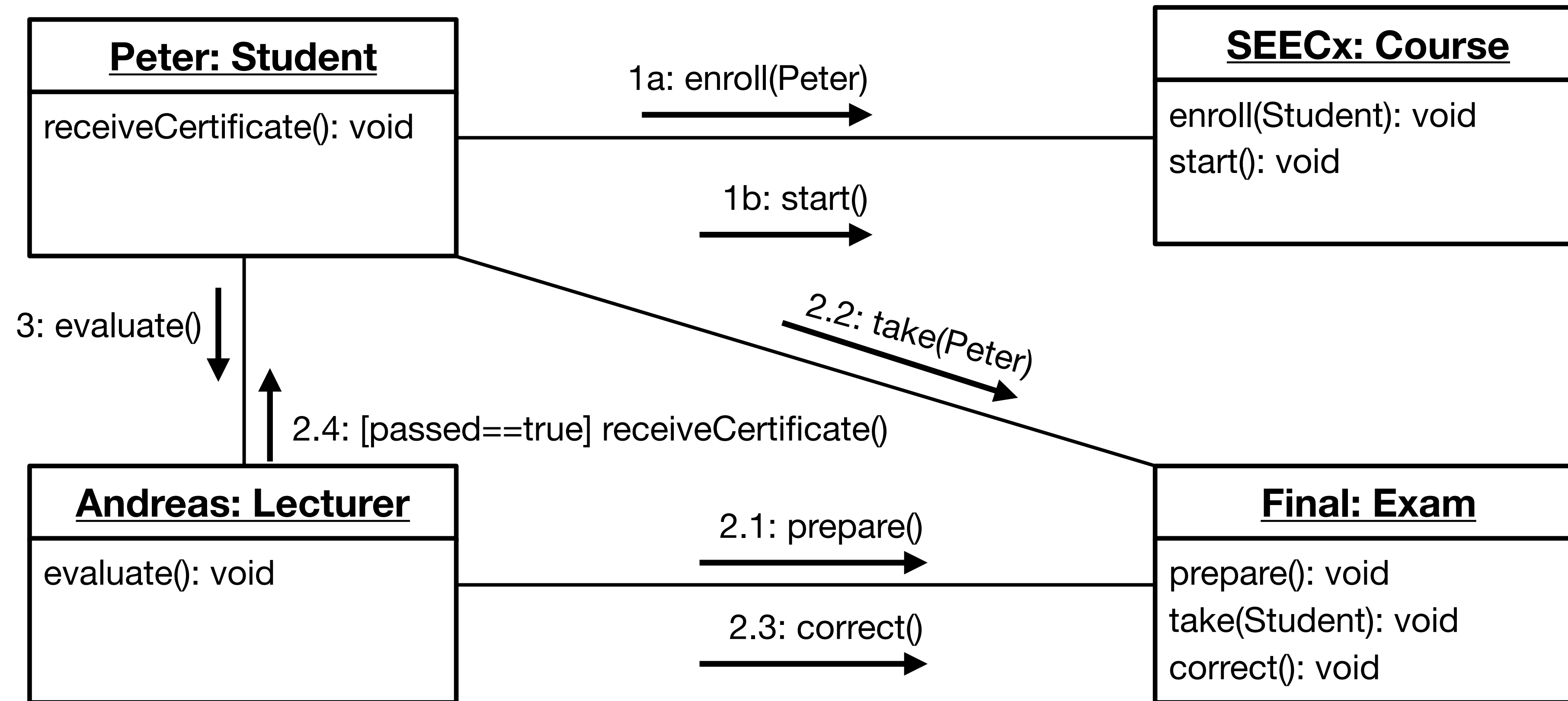
No? Refine your class diagram by adding a public method to the receiver

Example:

“Peter joins the course SEECx”



Example



Software Engineering Essentials



UML Communication Diagram

Bernd Bruegge, Stephan Krusche, Andreas Seitz, Jan Knobloch
Chair for Applied Software Engineering — Faculty of Informatics

