

Curriculum development guidebook

Institute of Biostatistics and Analyses
Faculty of Medicine
Masaryk University

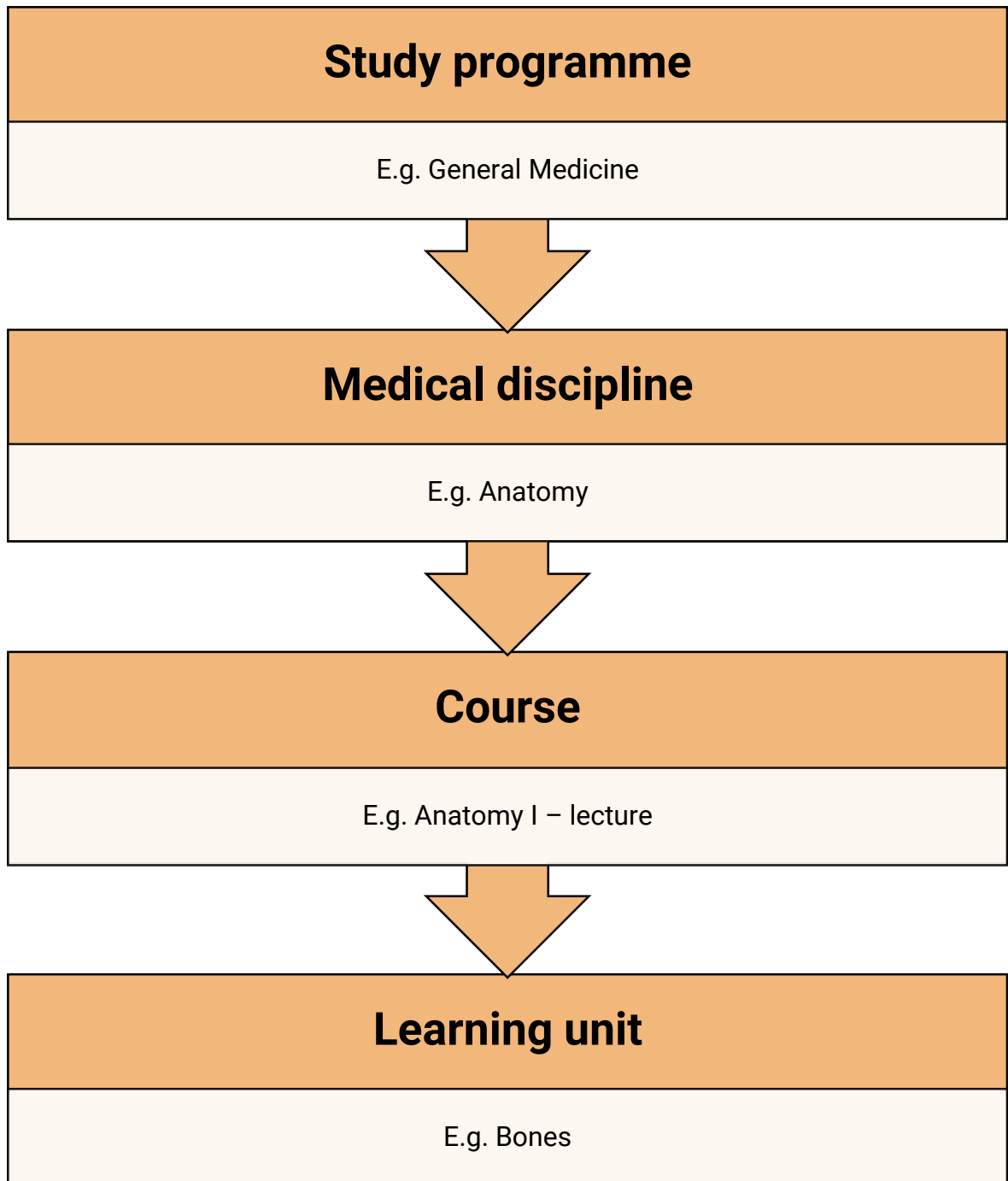
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**Institute
of Biostatistics
and Analyses**

Why we need well-balanced curriculum?

- Students
 - Discover what knowledge shall be obtained during study programmes
 - Identify which topics will be covered repeatedly
 - Find clear information about overlaps (desirable or not)
- Lecturers
 - Describe their lessons clearly
 - Browse curriculum data of all available courses
- Management
 - On-line transparent overview of curriculum
 - Decision support of curriculum building and innovation

Curriculum structure – hierarchy



Curriculum structure









































Building blocks

Study programme	Information about whole curriculum with binding to the field. <ul style="list-style-type: none">• E.g. General Medicine, Faculty of Medicine, Masaryk University
Medical discipline	Information about medical disciplines. In case of Masaryk University – 44 medical disciplines in General Medicine study programme <ul style="list-style-type: none">• E.g. Anatomy
Course	Information about particular courses with binding to the semester and medical discipline. In case of MU – General Medicine has around 140 active courses <ul style="list-style-type: none">• E.g. Anatomy I – lecture
Learning unit	Learning units are parts of courses (course consists of learning units) <ul style="list-style-type: none">• E.g. Bones, Joints

Description of competencies

Learning outcome	Learning outcomes are competencies of each student after finishing learning units, courses or whole programme <ul style="list-style-type: none">• E.g. Student describes oesophagus and its structures using current anatomical nomenclature.
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Curriculum matrix

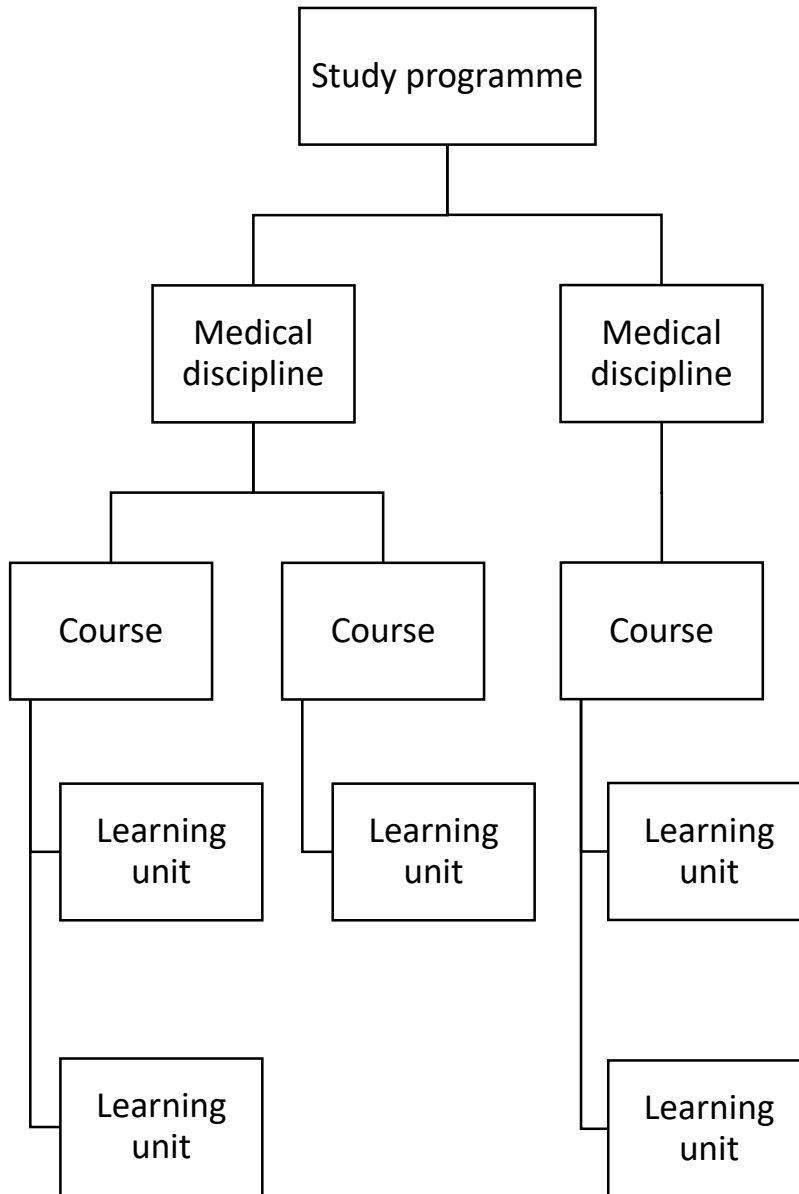
	Study programme	Medical discipline	Course	Learning unit	Learning outcome
Category of learning outcome					
Assessment form					
Range of learning unit					
Type of learning unit					
Importance					
Annotation					
MeSH keywords					
Significant terms					

Curriculum structure – vocabulary

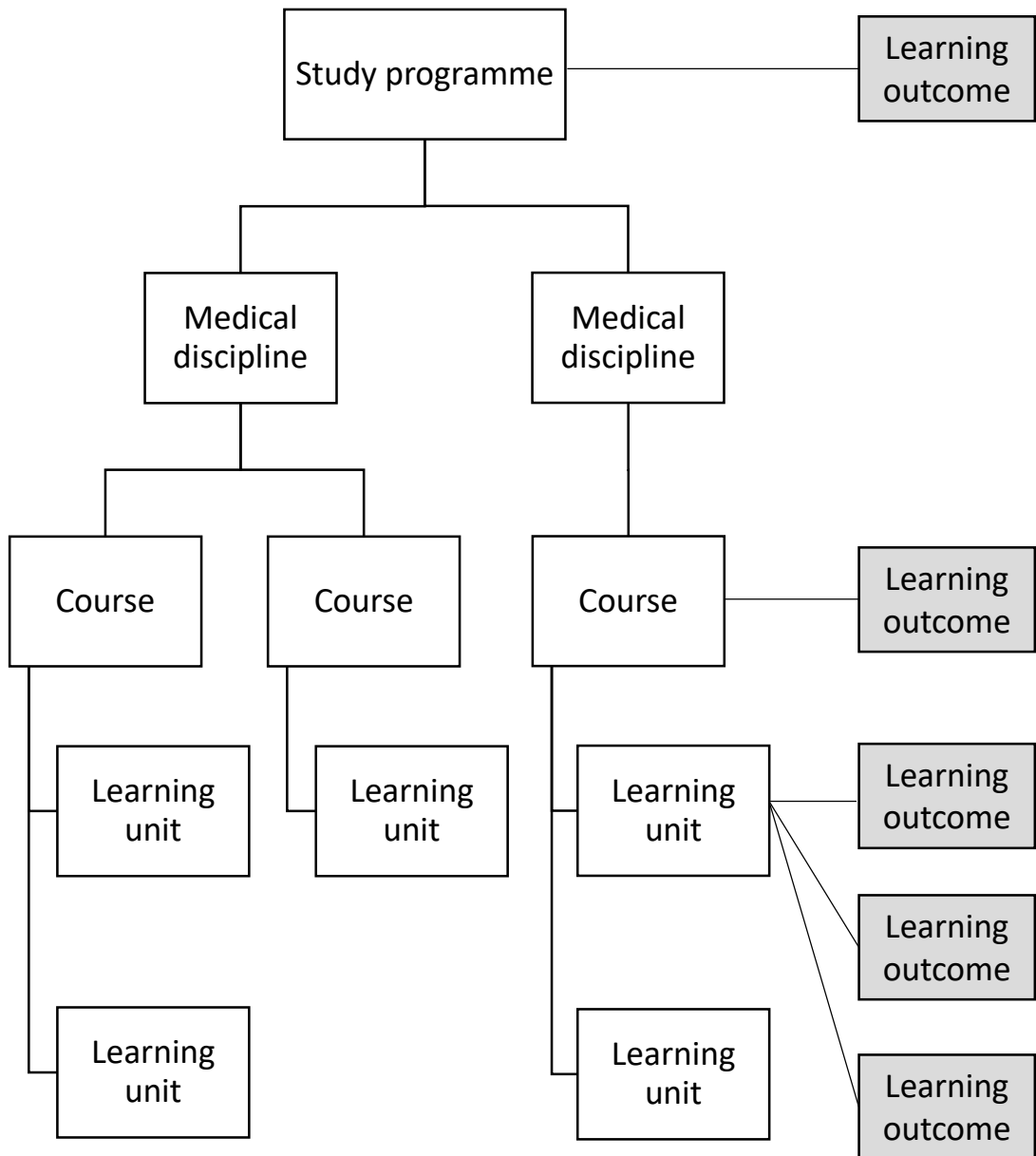
Descriptive attributes of building blocks

Category of learning outcome	<ul style="list-style-type: none"> • Programme level: This program instills the following competencies... • Course level: By the end of this course, you will be able to... • Unit level: By the end of this session, you will be able to...
Assessment form	Form of learning outcome evaluation (e.g. final oral/written/electronic exam, case study, team project, etc.)
Range of learning unit	Duration in hours
Type of learning unit	E.g. lecture, seminar, clinical practice, self-study, etc.
Importance	Initial brief explanation (why a learning unit occurs, and if so what follows the target)
Annotation	Short summary of a building block along with educational goals and instructions description
MeSH keywords	Standardised medical vocabulary
Significant terms	Fundamental topic contained and explained during learning unit in a tree structure

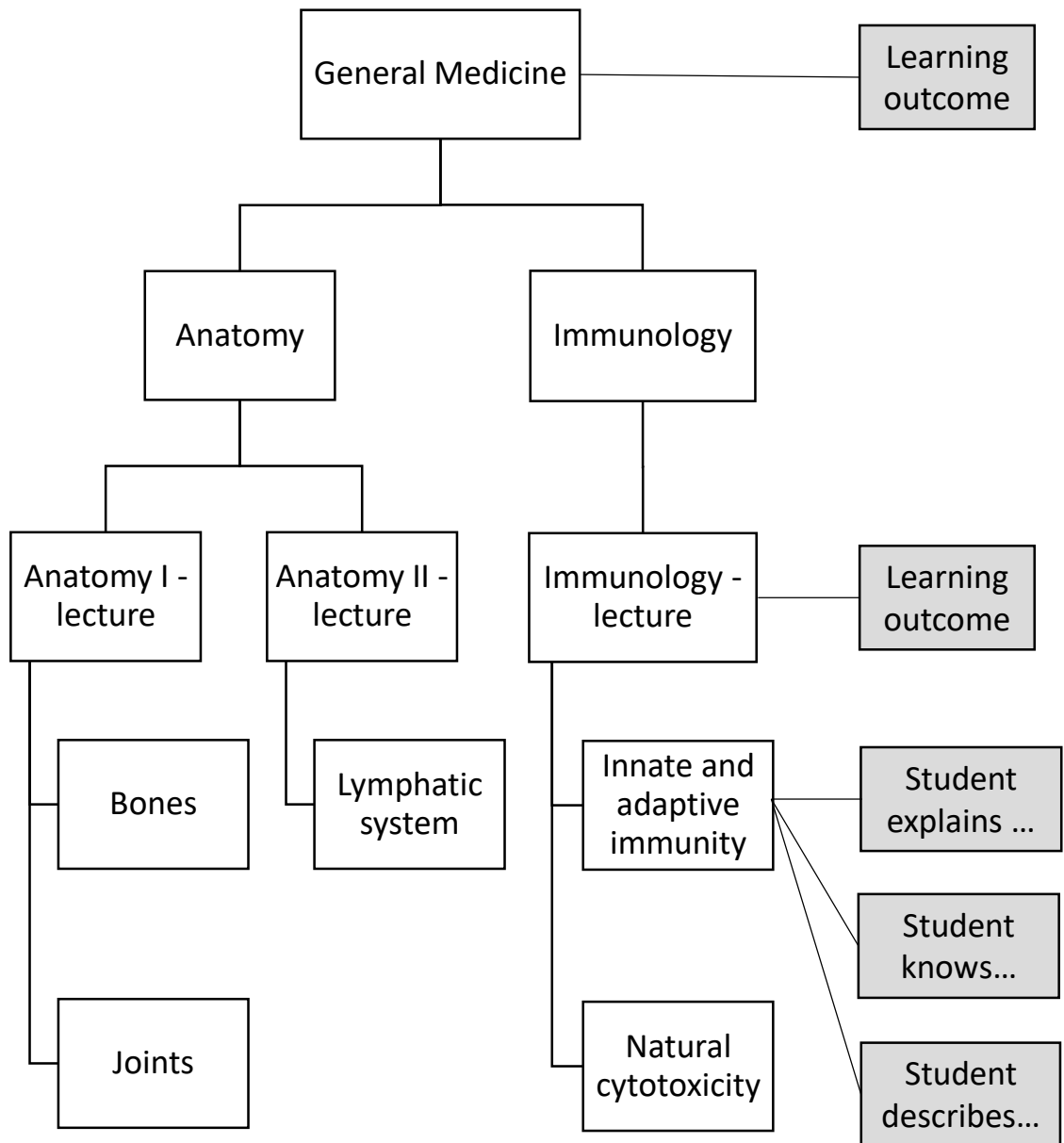
Curriculum structure – general relations



Curriculum structure enhanced with competencies



Curriculum structure enhanced with competencies – example



Methodological background: outcome-based approach

Measurable description of what students are able to demonstrate in terms of knowledge, skills, and values.

Noun (the subject matter content)

Verb (the cognitive processes)

Sentence (what student is expected to know, to do, ...)

Student

describes

the anatomy of human body.

Stakeholders involved in curriculum management system

- Curriculum designer
 - Expert who creates the content of particular learning unit.
- Guarantor
 - Expert who approves the content of particular learning unit.
- Head of department
 - Senior expert who leads particular department.
- Teacher
 - Person affiliated to the faculty who can only browse the content.
 - **Your profile is in this role.**
- Student

Example: detail of learning unit

Learning unit represents a comprehensive content block of course, typically one lecture or practise. Each learning unit is divided to the following parts:

- **Identification**
- Description
- Significant terms
- Courses and learning outcomes

The screenshot displays the 'MUNI MED' interface. On the left is a navigation menu with options: My portfolio, Content management (with a dropdown arrow), Study programmes, Medical disciplines, Courses, Learning units (highlighted), Learning outcomes, Curriculum browser, Content export, and Administration. The main header shows 'Learning unit' with a 'Finished' status and 'EDIT' and 'CANCEL' buttons. The 'Identification' section for the 'Lymphatic system' learning unit is shown with the following details:

Curriculum designer	Inclusion in section	Number of linked courses
<ul style="list-style-type: none">• Račanská Michaela	<ul style="list-style-type: none">• Theoretic sciences	1
Guarantor	Superior courses	
<ul style="list-style-type: none">• Dubový Petr	<ul style="list-style-type: none">• Anatomy II - lecture	
Head of department	Type of teaching	Number of linked learning outcomes
<ul style="list-style-type: none">• Dubový Petr	<ul style="list-style-type: none">• Seminar - 2 h	4

Below the identification section are expandable sections: Description, Significant terms, and Courses and learning outcomes, each with a red plus sign to its right.

Example: detail of learning unit

Learning unit represents a comprehensive content block of course, typically one lecture or practise. Each learning unit is divided to the following parts:

- Identification
- **Description**
- Significant terms
- Courses and learning outcomes

The screenshot displays the MUNI MED Learning unit interface. On the left is a navigation sidebar with options: My portfolio, Content management (Study programmes, Medical disciplines, Courses, Learning units, Learning outcomes), Curriculum browser, Content export, and Administration. The main content area is titled 'Learning unit' with a 'Finished' status and 'EDIT' and 'CANCEL' buttons. The content is organized into sections: Identification, Description, Significant terms, and Courses and learning outcomes. The 'Description' section is expanded, showing 'Importance of learning unit' and 'Description of learning unit'.

Identification +

Description -

Importance of learning unit

The lymph system ensures return transport of water from tissue fluid into the blood. This Unit presents students with different parts of the lymphatic system, its basic structure (for detailed description see histology) and the main lymph trunks. Emphasis is placed on the tribute area, regional and sentinel nodes.

Description of learning unit

Students will be able to:

1. define and practically identify and describe the lymphatic system on human anatomical preparations according to the internationally valid anatomical terminology (PNA)
2. name all parts of the lymphatic system and explain their basic morphology and function
3. estimate topographic mutual relations between the lymphatic system and other systems
4. formulate normal structure of the lymphatic system
5. evaluate the studied anatomical structures on X-rays from the morphological point of view

Knowledge in this Unit cannot be obtained just by studying the recommended literature. The process of knowledge acquirement assumes continuous work with the anatomical atlas and preparations in the study room at the Institute of Anatomy and the Anatomical Museum, X-rays and concentrated study in practical workshops.

Mesh keywords

Significant terms +

Courses and learning outcomes +

Example: detail of learning unit

Learning unit represents a comprehensive content block of course, typically one lecture or practise. Each learning unit is divided to the following parts:

- Identification
- Description
- **Significant terms**
- Courses and learning outcomes

The screenshot shows the MUNI MED Learning unit management interface. The top navigation bar includes the MUNI MED logo, a hamburger menu, and user information for Masaryk University. The main header displays 'Learning unit' with a 'Finished' status and 'EDIT' and 'CANCEL' buttons. The left sidebar contains navigation options: My portfolio, Content management (with a dropdown arrow), Study programmes, Medical disciplines, Courses, Learning units (highlighted), Learning outcomes, Curriculum browser, Content export, and Administration. The main content area is divided into sections: Identification (+), Description (+), Significant terms (-), and Courses and learning outcomes (+). The Significant terms section contains a bulleted list: lymphatic system, regional nodes, sentinel nodes, basic structure, and different parts.

Example: detail of learning unit

Learning unit represents a comprehensive content block of course, typically one lecture or practise. Each learning unit is divided to the following parts:

- Identification
- Description
- Significant terms
- **Courses and learning outcomes**

The screenshot displays the MUNI MED Learning unit interface. On the left is a navigation sidebar with options: My portfolio, Content management (Study programmes, Medical disciplines, Courses, Learning units, Learning outcomes), Curriculum browser, Content export, and Administration. The main header shows 'Learning unit Finished' with 'EDIT' and 'CANCEL' buttons. The 'Courses and learning outcomes' section is expanded, showing 'Anatomy II - lecture' under 'Superior courses' and 'Connected learning outcomes' including: 'Student describes first aid relating to limb amputation', 'Student describes first aid during asthma', 'Student describes blast syndrome', and 'Student describes stab wounds'. A diagram below shows 'Anatomy II - lecture' connected to 'Lymphatic system', which is further connected to four learning outcomes, each marked with a green checkmark.

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