

# Latin and Greek in Scientific Terminology

CLA201H5F

CLASSES Thursdays, 11 September–27 November 2014, 3:00–6:00 PM

LOCATION IB 345

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OFFICE HOURS Thursdays during term, 2:00–3:00 PM, NE 272A

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WEBSITE <http://adunning.github.io/latin-greek-scientific-terminology>

## COURSE DESCRIPTION

The natural sciences, and the life sciences in particular, employ an enormous vocabulary of technical terms, presenting a sizeable challenge to the beginning student. The complexity of these terms is owed in part to the fact that many were formed from Greek and Latin words, in order to allow for easier communication within a multilingual scientific community at a time when most of its members learned these languages as a core part of their education. Although most students of the sciences are no longer expected to learn classical languages, a basic exposure to the Latin and Greek elements of scientific language can make it much easier to understand the meaning of technical terms and to expand one's scientific vocabulary.

### *Learning goals*

- Acquire a working vocabulary of the fundamental Greek and Latin roots, prefixes, and suffixes key to understanding scientific terms.
- Develop competency in using unfamiliar words to communicate and comprehend scientific results in oral and written contexts.
- Gain the skills necessary to identify the Greek and Latin elements of scientific terminology and give their meaning.
- Understand the historical processes leading to the development of current scientific terminology.

### *How to succeed in this course*

This course does not presume previous knowledge of Greek or Latin. Nonetheless, as it covers a broad period of history and includes many unfamiliar concepts, ensure that you do the following:

- Examine the course readings before class and make brief notes in your own words to ensure that you understand the concepts they describe. This will help you to digest the information more thoroughly and save you hours when studying for the tests and final exam.
- Start learning the vocabulary each week before class, and review it daily using flashcards or one of several online programs. Try to link Latin and Greek roots to words you already know, and point these connections out to the rest of us.
- Ask questions; chances are that someone else is wondering the same thing as you, regardless of how silly you might think it sounds. Come to my office hours if you don't understand something we covered.

#### ASSIGNMENTS

Assessment is based on a series of tests, in which you will demonstrate your knowledge of Latin and Greek word forms as applied to scientific terminology, and written assignments, in which you will demonstrate your ability to engage with scientific literature. These are weighted as follows:

- Test I (*16 October*): 20%
- Test II (*20 November*): 20%
- Weekly Vocabulary Assignments (*due the day before each class*): 5%
- Vocabulary Analysis Paper (*due 27 November*): 15%
- Final Exam (*date to be announced*): 40%

#### *Tests and final exam*

Two tests will be conducted, in which you will be expected to:

- analyse scientific terms and give the meanings of their elements;
- provide the meanings of word roots from the vocabulary list;
- transliterate words written in the Greek alphabet into their equivalents in the Roman alphabet;
- identify the derivation of words in passages from scientific articles;
- provide English terms matching definitions for word roots; and
- respond to questions on the history of scientific developments in the classical, medieval, and early modern periods that influenced the development of modern scientific nomenclature.

Practice tests will be conducted in advance in order to familiarize you with the format. The vocabulary for these tests will be drawn entirely from the vocabulary list distributed to the class; the historical content for the tests will come from a combination of the lectures and the course readings. The final exam (cumulative) will combine these elements with discussions of terminology in passages from scientific articles, and short-answer questions on the historical development of scientific terminology.

#### *Weekly vocabulary assignments*

During each lecture, we will dissect the terminology of a recent peer-reviewed scientific article. Before class, look through the week's article (posted on the Learning Portal; note that these are separate from the course readings) and make a list of ten words that you find unusual and appear to you to be based on Greek or Latin. Break down one of these words into its constituent roots based on the etymologies provided in dictionaries. This must be submitted

through the Learning Portal by 11:59 PM the night before each class; late assignments will not be accepted, but one will be subtracted from the final evaluation. We will analyse these words during class the following day. Assessment is based on both the completion of the assignment and participation in class.

### *Vocabulary analysis paper*

This assignment builds on your weekly experience examining vocabulary from journals. Select twenty terms total from any two recent (2014) articles in peer-reviewed scientific journals, and analyse their etymology and meaning. You should use at least three different dictionaries (or other scholarly sources) to support your findings. For models, see Cascarini (2007) and Cooper and Cascarini (2008). Unlike these articles, however, you must fully cite the dictionaries and other sources used using author-date system of the *Chicago Manual of Style* (used in this syllabus) or another style relevant to your discipline. Further details are provided separately.

### RESOURCES

All required readings are listed in the schedule below and available online; these supplement the lectures by providing historical background on the development of scientific terminology and some points of grammar. Questions based on these readings will appear on the tests and final exam.

We will make extensive use of the etymologies found in English and technical dictionaries. The *Oxford English Dictionary* (Simpson and Weiner 1989) is excellent, and you will become intimately familiar with it. For quick reference, I would recommend the *Oxford Dictionary of English* (Stevenson 2010), whose online version includes recordings of pronunciation; the dictionary is also included with Mac OS X. *Taber's Cyclopedic Medical Dictionary* (Venes 2013) and *Stedman's Medical Dictionary* (Stegman et al. 2006) are excellent medical dictionaries with etymologies, available in the library's reference collection and online; Senning (2007), in reference, is useful for understanding chemical names. Haubrich (2003) is a useful reference tool for examining the origins of medical words, and is on reserve at the library.

Classical dictionaries are necessary to fill in the details for more obscure terms. Available online through [Logeion](#), [Perseus](#), and various other sources are two of the most comprehensive dictionaries of Greek and Latin, respectively: Liddell, Scott, and Stuart Jones (1940) – for which a 1996 supplement is available in print – and Lewis and Short (1879). The latter of these is quite dated, and for the purposes of classical scholarship it has been replaced by the *Oxford Latin Dictionary* (Glare 1982), but this is only available in print.

You may also wish to make use of Ayers (1972), on reserve at the library, from which much of this course's vocabulary and structure is derived; it includes additional exercises that you may find helpful.

## SCHEDULE

### *Part I: Scientific terms from Greek*

#### *1. Thursday, 11 September*

- The History of English
- Guide to Reference Tools
- Greek Roots, Prefixes, and Suffixes

READ Dirckx (2006a), a summary of basic concepts; Turmezei (2012), an overview of the sources of words in anatomical terminology

#### *2. Thursday, 18 September*

- The Greek Alphabet
- Basic Concepts of Inflected Languages
- Greek Adjective-Forming and Compound Suffixes

READ Džuganová (1998), showing the difference between a prefix and a suffix; Dirckx (1985), on the function of gender in language

#### *3. Thursday, 25 September*

- Greek Noun-Forming Suffixes
- Scientific Use of Greek and Latin

READ Džuganová (2013), explaining current approaches to terminology; Dirckx (2001), on singular and plural terms

#### *4. Thursday, 2 October*

- Greek Plurals, Diminutives, and Verb-Forming Suffixes

READ Dirckx (2000a; 2000b), discussing ancient interpretations of plagues; Dirckx (1999), on diminutives

#### *5. Thursday, 9 October*

- Evolving Meanings
- Terminology and History

READ Sakai (2007), on the development of anatomical terminology; Kachlík et al. (2008), describing the modern standardization of anatomical terminology; Soutis (2006), on Greek words found in the context of paediatric surgery

#### *6. Thursday, 16 October*

- **Test I**
- Figurative Usage

READ Paluzzi et al. (2012), on terms used in neuroanatomy; van Regenmortel (2000), on possible issues with the use of Latin in taxonomy

*Part II: Scientific terms from Latin*

7. *Thursday, 23 October*

- Scientific Communication and Peer Review
- Hybrid Words
- Latin Prefixes and Stems

READ Garner (2014), on using scientific terminology to track plagiarism; Dirckx (1977), on the combination of Greek and Latin in a single word; Dirckx (1988; 1990), a list of Latin words in current usage

8. *Thursday, 30 October*

- Latin Suffixes I
- Medieval Contributions to Scientific Terminology

READ Džuganová (2006), on prefixes and suffixes with a negative meaning; Dirckx (2007), translating Isidore of Seville's *Etymologies*, a medieval approach to word derivations

9. *Thursday, 6 November*

- Latin Suffixes II
- Early-Modern Contributions to Scientific Terminology

READ Ivanová and Holomáňová (2001), discussing terminology reform by Vesalius; Musil et al. (2014), effects of early-modern scholarship on the nomenclature of the human skeletal muscles

10. *Thursday, 13 November*

- Latin Suffixes III
- Latin Declensions and Plurals
- Latin Nouns I

READ Dirckx and Leider (1981), plurals of Latin nouns and adjectives; Lydiatt and Bucher (2010), on the nomenclature of the larynx; Leider and Dirckx (1982), a list of Latin phrases used in scientific writing

11. *Thursday, 20 November*

- **Test II**
- Latin Nouns II

READ Davis et al. (2014), on the etymology of the cranial nerves; Dirckx (1987), a list of obsolete medical terminology

12. *Thursday, 27 November*

- **Vocabulary Analysis Paper Due**
- Latin Phrases
- Conclusion

READ Dirckx (2006b), a summary of the history of anatomical nomenclature; Marečková, Šimon, and Červený (2002), on the future of Latin in the sciences; Díez Arroyo (2013), on scientific terminology in advertising

## POLICIES

### *Communication*

You are always welcome to drop by with questions during office hours. I will respond to email messages within 48 hours. Official course announcements will be sent occasionally to your University of Toronto email address.

### *Missed tests and deferrals*

You may be exempted from a term test only in cases of medical or personal emergencies. Absences must be reported online through ROSI, and you must notify me via email with a medical certificate or other appropriate documentation **within three days of the event**. The weight of the excused test will be distributed equally between other assignments and tests. If you require a deferral of the final exam, you must file a [petition with the Office of the Registrar](#).

### *Notice of collection*

*The University of Toronto respects your privacy. Personal information is collected pursuant to section 2(14) of the University of Toronto Act, 1971. It is collected for the purpose of administering accommodations for academic purposes based on medical grounds. The department will maintain a record of all medical certificates received. At all times your information will be protected in accordance with the Freedom of Information and Protection of Privacy Act.*

### *Late work*

Weekly vocabulary assignments will not be accepted late; one will be automatically excused for all students. The final vocabulary paper will only be accepted after the deadline with prior permission (which must be requested at least two days in advance via email).

### *Academic integrity*

Academic integrity is fundamental to learning and scholarship; for a recent example of its importance to the sciences, see Garner (2014). You are expected to know and follow the University of Toronto's [Code of Student Conduct](#) and [Code of Behaviour on Academic Matters](#).

Normally, students will be required to submit their course essays to [Turnitin.com](#) for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com website.

### *Accommodations*

If you are a student with a disability or health consideration and need academic accommodations, please see me and contact the [AccessAbility Resource Centre](#) as soon as possible.

The [Academic Skills Centre](#) is also available to all students, and offers a full range of workshops, seminars and individual consultations.

## BIBLIOGRAPHY

The following resources are available through the University of Toronto library (links to subscription articles will only work on the campus network). For convenience, articles can also be found on the Learning Portal.

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