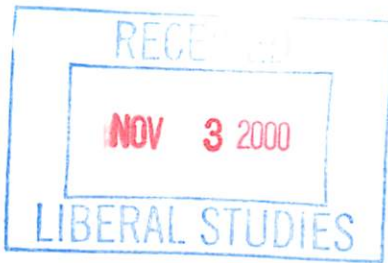


LSC Use Only  
Number: \_\_\_\_\_  
Submission Date: \_\_\_\_\_  
Action-Date: \_\_\_\_\_



UWUCC USE Only  
Number: 00-39  
Submission Date: \_\_\_\_\_  
Action-Date: App 4/25/00  
senate App 9/4/01

**CURRICULUM PROPOSAL COVER SHEET**  
University-Wide Undergraduate Curriculum Committee

**I. CONTACT**

Contact Person David H. Pistole Phone 72612  
Department Biology

**II. PROPOSAL TYPE (Check All Appropriate Lines)**

**COURSE** The History of Pain  
Suggested 20 character title

**New Course\*** The History of Pain BIOL 118  
Course Number and Full Title

**Course Revision** \_\_\_\_\_  
Course Number and Full Title

**Liberal Studies Approval+** The History of Pain BIOL 118  
for new or existing course Course Number and Full Title

**Course Deletion** \_\_\_\_\_  
Course Number and Full Title

**Number and/or Title Change** \_\_\_\_\_  
Old Number and/or Full Old Title

\_\_\_\_\_  
New Number and/or Full New Title

**Course or Catalog Description Change** \_\_\_\_\_  
Course Number and Full Title

**PROGRAM:**  Major  Minor  Track

**New Program\*** \_\_\_\_\_  
Program Name

**Program Revision\*** \_\_\_\_\_  
Program Name

**Program Deletion\*** \_\_\_\_\_  
Program Name

**Title Change** \_\_\_\_\_  
Old Program Name

\_\_\_\_\_ New Program Name

**III. Approvals (signatures and date)**

Archie C. Hulse X-15-00 W. Bay Bitt  
Department Curriculum Committee Department Chair

[Signature] [Signature]  
College Curriculum Committee College Dean

[Signature] \_\_\_\_\_  
Director of Liberal Studies (where applicable) \*Provost (where applicable)





## Liberal Studies Course Approval Form Instruction Sheet

Use this form only if you wish to have a course included in a Liberal Studies Learning Skill or Knowledge Area category. Do not use this form for synthesis or writing-intensive sections; different forms are available for these. If you have questions, contact the Liberal Studies Office, 352 Sutton Hall, telephone 357-5715.

This form is intended to assist you in developing your course to meet IUP's Criteria for Liberal Studies and to arrange your proposal in a standard order for consideration by the Liberal Studies Committee (LSC) and the University-wide Undergraduate Curriculum Committee. When you have finished, your proposal will have these parts:

- Standard UWUCC Course Proposal Cover Sheet, with signatures (one page)
- Completed copy of LS General Information Check-List--Parts 1-3 of this form (one page)
- One sheet of paper for your answers to the four questions in Part IV of this form (one page)
- Completed check-list for each curriculum category in which your course is to be listed--e.g. Non-Western Cultures, Fine Arts, etc. (one page each) [Check-lists are found in the appendix to this Handbook.]
- Course syllabus in UWUCC format.

Note: If this is a new course not previously approved by the University Senate, you will also need answers to the UWUCC Course Analysis Questionnaire. These are not considered by the LSC but will be forwarded to the UWUCC along with the rest of the proposal after the LSC completes its review. For information on UWUCC procedures for new courses or course revisions, see appropriate sections of this Handbook.

Submit one (1) copy of the completed proposal to the Liberal Studies Office (352 Sutton Hall.) The Liberal Studies Committee will make its own copies from your original; the committee does reserve the right to return excessively long proposals for editing before they are duplicated. (If you happen to have extra copies of the proposal, you are invited to send multiple copies to the LSC to save unnecessary copying.)

**Please Number All Pages**

# CHECK LIST -- LIBERAL STUDIES ELECTIVES

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## Knowledge Area Criteria which the course must meet:

- Treat concepts, themes and events in sufficient depth to enable students to appreciate the complexity, history and current implications of what is being studied; and not be merely cursory coverage of lists of topics.
- Suggest the major intellectual questions/problems which interest practitioners of a discipline and explore critically the important theories and principles presented by the discipline.
- Allow students to understand and apply the methods of inquiry and vocabulary commonly used in the discipline.
- Encourage students to use and enhance, wherever possible, the composition and mathematics skills built in the Skill Areas of Liberal Studies.

## Liberal Studies Elective Criteria which the course must meet:

- Meet the "General Criteria Which Apply to All Liberal Studies Courses."
- Not be a technical, professional or pre-professional course.

Explanation: Appropriate courses are to be characterized by learning in its broad, liberal sense rather than in the sense of technique or preprofessional proficiency... For instance, assuming it met all the other criteria for Liberal Studies, a course in "Theater History" might be appropriate, while one in "The Craft of Set Construction" probably would not; or, a course in "Modern American Poetry" might be appropriate, while one in "New Techniques for Teaching Writing in Secondary Schools" probably would not; or, a course on "Mass Media and American Society" might be appropriate, while one in "Television Production Skills" probably would not; or, a course in "Human Anatomy" might be appropriate, while one in "Strategies for Biological Field Work" probably would not; or, a course in "Intermediate French" might be appropriate, while one in "Practical Methods for Professional Translators" probably would not.

# CHECK LIST – NATURAL SCIENCES (Non-laboratory)

## Knowledge Area Criteria which the course must meet:

- Treat concepts, themes and events in sufficient depth to enable students to appreciate the complexity, history and current implications of what is being studied; and not be merely cursory coverage of lists of topics.
- Suggest the major intellectual questions/problems which interest practitioners of a discipline and explore critically the important theories and principles presented by the discipline.
- Allow students to understand and apply the methods of inquiry and vocabulary commonly used in the discipline.
- Encourage students to use and enhance, wherever possible, the composition and mathematics skills built in the Skill Area of Liberal Studies.

## Natural Science Criteria which the course must meet:

- Examine a body of knowledge of natural science that will contribute to an understanding of the natural world.
- Provide an understanding of the development of natural science theories and their modification.
- Teach students to formulate and test hypotheses.
- Provide an understanding of some of the "great moments" in the history of natural science and the individuals, including women and minorities, responsible for them.

## Additional Natural Science Criteria which the course should meet:

- Encourage an appreciation of the complex interrelationship of natural science with the life of the individual.
- Develop in students the abilities necessary to cope with the consequences of natural science in the modern world.
- Develop an inquiring attitude consistent with the tenets of natural science, an attitude that is willing to expose fallacy on the basis of reason, that demands evidence for scientific assertions and yet is tolerant of hypotheses in the absence of contradictory evidence.

## The History of Pain

### Syllabus

#### BIOL 118 The History of Pain

3 credits  
0 lab hours  
3 lecture hours  
(3c-0l-3sh)

Despite its many individual, social, and cultural characteristics, pain is based on an anatomical and physiological foundation. The course will look at the history of scientific theories and hypotheses about understanding the pain mechanism. Through this type of study, students will learn about the status of pain in various societies throughout the ages.

#### Objectives

1. The student will understand the physiology of pain by gaining knowledge about how the human nervous system works. Students will gain a better understanding of the general physiology of sensation through this approach.
2. The student will understand how pain has been perceived throughout the ages by understanding scientific and medical theories of that period. The course will concentrate on Western culture.
3. The student will understand how pain is perceived and dealt with in today's society.
4. The student will learn of important people throughout the ages who have made contributions to our understanding of pain.

#### Lecture Topic Outline

This sequence is based on three one-hour lectures a week for 14 weeks for a total of 42 lectures.

- |                 |   |
|-----------------|---|
| 3 Lecture hours | Introduction - What is pain <ol style="list-style-type: none"> <li>a. physiological</li> <li>b. pathological</li> <li>c. personal interpretations – where does it hurt?</li> <li>d. do animals (other than humans) and plants feel pain</li> </ol>  |
| 7 Lecture hours | The Physiology of Sensation <ol style="list-style-type: none"> <li>a. neurological basis for sensation in humans</li> <li>b. nervous system organization – peripheral and central nervous systems</li> <li>c. nerve function – action potentials</li> <li>d. receptor systems – generator potentials</li> </ol> |

## The History of Pain

- e. pain receptors – how they work and various types
- f. why an overload of “normal” receptors can equal pain

1 Lecture hour

Exam 1

3 Lecture hours

Following pain through the ages - Earliest Recorded Examples of Pain

- a. Introduction – ancient philosophy and pain: an overview
- b. Ancient Greece – Hippocratic Collection, Homer, Sophocles
- c. Egyptian medicine and Hellenistic culture in Alexandria
- d. Roman medicine – Galen’s observations
- e. Pharmacology

3 Lecture hours

Pain in the Middle Ages

- a. Galenism
- b. The four elements and four humors – scientific views in the middle ages
- b. Arab influences
- c. Eastern influences
- d. Pharmacology

3 Lecture hours

Pain in the Renaissance

- a. The “birth of the individual” – Humoral foundations remain
- b. The rebirth of anatomy – new scientific views of an old field
- c. The development of professionals and specialists of medicine
- d. Pharmacology

1 Lecture hour

Exam 2

3 Lecture hours

Pain in the Classical Age

- a. A turning point in history of medicine - Harvey – circulation of blood
- b. Breaking the Galen legacy – new analytical methods
- c. Theories of sensation
- d. Pharmacology

3 Lecture hours

Pain in the Age of Enlightenment

- a. The three principal medical philosophies
- b. The classification of pain into four principal types
- c. The development of clinical medicine
- d. Studies of the living fiber – repetition of experiments
- e. Pain therapeutics

4 Lecture hours

Pain in the 19<sup>th</sup> century

- a. Pain physiology – the great debate - central or peripheral nervous system

## The History of Pain

- b. The specificity theory, the summation theory and the cellular theory
- c. The isolation of morphine
- d. The anesthesia revolution
- e. Experimental physiology and the explanation of pain
- f. Techniques in the fight against pain

1 Lecture hour

Exam 3

3 Lecture hours

- The early pain pioneers of the 20<sup>th</sup> century
- a. Pain pioneers Bonica, Livingston, Noordenbos
  - b. Localization of pain centers
  - c. Sherrington and a new methodological approach
  - d. The theory of evolution and the language of pain

3 Lecture hours

- Pain in the later half of the 20<sup>th</sup> century
- a. A re-evaluation of pain's position in a global society
  - b. Pragmatic and multidisciplinary approaches
  - c. The gate control model
  - d. The physiopathology of pain

4 Lecture hours

- Current studies and models of pain management
- a. American Pain Society – current guidelines
  - b. Discussion of selected papers from the National Academy of Sciences colloquium "The Neurobiology of Pain" December 11-13, 1998
  - c. Pain and the dying: the hospice movement and the work of Cicely Saunders
  - d. An overview of major contributors in the field of pain research today: Kathleen Foley, Ainsley Iggo, Ronald Melzack, Dame Cicely Saunders, Richard Sternbach, and Patrick Wall

Final exam (four) during final exam week

### Methods of evaluation

1. There will be four examinations during the course. Each will be worth 15% of the student's final grade for a total of 60% of the final grade. Exams will be short answer essays.
2. Students will be given four case studies, one for each of the following sections of lectures: 1-11; 12-20; 22-31; and 33-42. These case studies will have questions that must be answered and turned in by the student. Each case study will be worth 5% of the final grade for a total of 20% of the final grade.
3. Students will develop one case study for the class. The case study will be based on articles and ideas gathered from sources such as newspapers, news magazines, and popular science and



## The History of Pain

medical magazines (e.g. Discover Magazine, Science and Medicine or Journal of the American Medical Association). Articles available exclusively on the Internet will not be allowed to be submitted. It will follow the format of the case studies given by the professor and will be worth 15% of the final grade. This will be a class assignment (no presentations in class).

4. Students will submit a critique with a maximum of five printed pages of a non-textbook reading. The critique will be worth 5% of the final grade.

5. Grading scale: A 90-100 B 80-89 C 70-79 D 60-69 F 59 and below

### Textbook

Rey, Roselyne. 1998. *The History of Pain* (Translated by Louise Wallace, J.A. Cadden and S.W. Cadden). Harvard University Press

### Non-textbook reading

One of the following

- \* Good, Delvecchio Mary-Jo *et. al.* 1994. *Pain As Human Experience: An Anthropological Perspective*. Univ. California Press.
- \* Morris, David B. 1993. *The Culture of Pain*. Univ. California Press.
- \* Scarry, Elaine 1987. *The Body in Pain: The Making and Unmaking of the World*. Oxford Univ. Press.

### Suggested Readings

- Caruth, Cathy 1996. *Unclaimed Experience: Trauma, Narrative, and History*. Johns Hopkins Univ Pr.
- Loustaunau, Martha O. and Elisa J. Sobo. 1997. *The Cultural Context of Health, Illness, and Medicine*. Bergin & Garvey.
- Mann, Ronald D. (Editor). 1988. *The History of the Management of Pain : From Early Principles to Present Practice*. Parthenon Pub Group.
- Morris, David B. 1998. *Illness and Culture in the Postmodern Age*. University of California Press.
- Ranger, Terence (Editor) and Paul Slack (Editor). 1996. *Epidemics and Ideas : Essays on the Historical Perception of Pestilence (Past and Present Publications)*. Cambridge Univ Pr.
- Roth, Michael S. 1995. *The Ironist's Cage: Memory, Trauma, and the Construction of History*. Columbia Univ Pr.

### Bibliography

Adams, Raymond. 1996. *Principles of Neurology*. McGraw Hill.

## The History of Pain

- Brumback, Roger. 1996. *Neurology and Clinical Neuroscience*. Springer Verlag.
- Caruth, Cathy. 1996. *Unclaimed Experience: Trauma, Narrative, and History*. Johns Hopkins Univ Pr.
- Delvecchio Mary-Jo Good, et. al. 1994. *Pain As Human Experience: An Anthropological Perspective*. Univ. California Press.
- Dowling, John. 1992. *Neurons and Networks : An Introduction to Neuroscience*. Belknap Pr.
- Frank, Arthur. 1997. *The Wounded Storyteller : Body, Illness, and Ethics*. Univ. of Chicago Press.
- Guyton, Arthur and John Hall. 1996. *Textbook of Medical Physiology*. WB Saunders.
- Guyton, Arthur and John Hall. 1997. *Human Physiology and Mechanisms of Disease*. WB Saunders.
- Johnson, Leonard. 1998. *Essential Medical Physiology*. Lippincott Williams & Wilkins.
- Kleinman, Arthur. 1989. *The Illness Narratives: Suffering, Healing, and the Human Condition*. Basic Books.
- Kleinman, Arthur. 1997. *Writing at the Margin: Discourse Between Anthropology and Medicine*. Univ. California Press.
- Loustaunau, Martha and Elisa Sobo. 1997. *The Cultural Context of Health, Illness, and Medicine*. Bergin & Garvey.
- Malvin, Richard et.al. 1997. *Concepts of Human Physiology*. Addison Wesley Longman.
- Mann, Ronald (editor). 1988. *The History of the Management of Pain : From Early Principles to Present Practice*. Parthenon Pub Group.
- Marieb, Elaine. 1997. *Human Anatomy & Physiology*. Addison-Wesley Pub Co.
- McLeod, James et.al. 1995. *Introductory Neurology*. Blackwell Science Inc.
- Moffitt, Peggy et.al. 1993. *Human Physiology*. WC Brown.
- Morris, David. 1993. *The Culture of Pain*. Univ. California Press.
- Morris, David. 1998. *Illness and Culture in the Postmodern Age*. University of California Press.

## The History of Pain

- Nowak, Thomas and Gordon Handford. 1994. *Essentials of Pathophysiology*. WC Brown.
- Podolsky, Lawrence. 1997. *Cures out of chaos: how unexpected discoveries led to breakthroughs in medicine and health*. Harwood Academic Publishers.
- Ranger, Terence and Paul Slack (editors). 1996. *Epidemics and Ideas : Essays on the Historical Perception of Pestilence (Past and Present Publications)*. Cambridge Univ Pr.
- Rey, Roselyne. 1998. *The History of Pain*. Harvard University Press.
- Ritvo, Roger et.al. 1998. *Sisters in sorrow: voices of care in the Holocaust*. Texas A&M University Press.
- Romanucci-Ross, Lola (editor) et.al. 1997. *The Anthropology of Medicine*. Greenwood Pub. Group.
- Roth, Michael. 1995. *The Ironist's Cage : Memory, Trauma, and the Construction of History*. Columbia Univ Pr.
- Rowland, Lewis (editor). 1995. *Merritt's textbook of neurology*. Lea & Febiger.
- Scarry, Elaine. 1987. *The Body in Pain: The Making and Unmaking of the World*. Oxford Univ. Press.
- Tortora, Gerald. 1994. *Introduction to the Human Body*. Harper Collins.
- Vander, Arthur et.al. 1998. *Human Physiology*. WCB/McGraw-Hill.
- West, John. 1999. *Best & Taylor's physiological basis of medical practice*. Lippincott, Williams & Wilkins.

## The History of Pain

### Answers to Liberal Studies Questions

- A. Not applicable. A single instructor will teach the course.
- B. The majority of contributions by women in the field of pain have come in the past century. Specifically, in the last portion of the class we will discuss the contributions of two of the major contributors in the field of pain research - Dame Cicely Saunders and Kathleen Foley. Another aspect including women will be a section about pain and dying and the work of Cicely Saunders and the hospice movement. Some of the selected papers from the National Academy of Sciences colloquium will also be by women. In addition, a woman writes the textbook we will be using and two of the three non-textbook readings available (one will be chosen) are by women. Finally, two of the four case studies will incorporate women and minorities as part of the study.
- C. The students will be required to read one of the following books: *The Culture of Pain* by David B. Morris; *Pain As Human Experience: An Anthropological Perspective* by Delvecchio Mary-Jo Good, et.al.; or *The Body in Pain: The Making and Unmaking of the World* by Elaine Scarry. These books will provide a different approach for students than the lectures by describing how pain is viewed by various cultures throughout the world. These books primarily focus on the individual's view of pain.
- D. This is an introductory course. It differs from our non-majors beginning courses (General Biology I ) by focusing on one theme – pain rather than the entire realm of biology. In addition, the General Biology I course does not cover any physiology or neurobiology.

### Answers to Course Analysis Questionnaire

A1. The course is a three credit non-laboratory science course that would be a part of the 4-3-3-science option of the liberal studies requirements. It will be exclusively for non-biology or biology education majors.

A2. This course does not require a change in any existing course or program.

A3. This course has been offered twice at IUP as a special topics course.

A4. The course will not be a dual-level course.

A5. The course will not be offered for variable credit.

A6. I am not aware of any other higher education institutions currently offering this course.

A7. No, the content of this course is not recommended or required by a professional society, accrediting authority, law or other external agency.

B1. The course will be taught by one instructor.

B2. The content of this course does not overlap that of any courses offered in other departments. Although pain might be discussed in other courses the historical aspects and their relationship to scientific and medical theories of the age are not.

B3. There will be seats in this course for students in the School of Continuing Education.

C1. Faculty resources are currently adequate.

C2. Resources for this course are adequate.

\*Space - Classroom space is available and adequate.

\*Equipment - Overhead projectors and computer outlets and projectors are available.

\*Laboratory Supplies and other Consumable Goods - Not applicable - lecture course.

\*Library Materials - The Stapleton library has adequate resources of reading materials to support the course.

\*Travel Funds - None needed.

C3. None of the resources for this course are funded by a grant.

C4. Every spring semester.

C5. One section.

C6. Student enrollment will be limited by the size of the room where the class is held.

C7. No professional society recommends enrollment limits or parameters for this course.

## The History of Pain

BIOL 118. The History of Pain 3c-0l-3sh

Prerequisite: Non-biology and non-biology education majors and non-biology minors only.

Despite its many individual, social, and cultural characteristics, pain is based on an anatomical and physiological foundation. The course will look at the history of scientific theories and hypotheses about understanding the pain mechanism. Through this type of study, students will learn about the status of pain in various societies throughout the ages.

Liberal Studies Office  
110 Gordon Hall ext. 7-5715

Mary Sadler  
email: msadler

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**Date:** February 19, 2001

**To:** Dr. David Pistole  
Biology Department

**From:** Mary Sadler, Director Liberal Studies



**Subject:** BIOL 118 History of Pain

At the February 15 2001 meeting, the Liberal Studies Committee **approved BIOL 118 History of Pain for the non-laboratory science category** in the Liberal Studies Program. Thank you for responding to our recommendations so promptly. We appreciate your effort.

Our approval will be forwarded to the UWUCC where the proposal is in the process of review as a new course.

CC: Dr. Barkley Butler, Chair  
Dr. John Eck, Dean  
✓ UWUCC