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Spring 3-23-1994

Senate Meeting, March 23, 1994

Academic Senate
Illinois State University

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ACADEMIC SENATE MINUTES

March 23, 1994

Volume XXV, No. 11

Call to Order

Roll Call

Approval of Minutes of February 23, 1994

Chairperson's Remarks

Vice Chairperson's Remarks

Student Government Association President's Remarks

Administrators' Remarks

- INFORMATION ITEMS:
1. Administrative Affairs Committee Presentation of 1995-96 and 1996-97 Academic Calendars
 2. Academic Affairs Committee Presentation of College of Arts and Sciences Proposal for a Minor in Cognitive Science
 3. Student Affairs Committee Presentation of New Student Code of Conduct

- ACTION ITEMS:
1. July-December, 1994 Academic Senate Meeting Calendar
 2. Approval of Student Appointments to University Programming Board Committees
 3. Approval of Rules Committee Recommendations for Faculty Appointments to Committees

Communications

Committee Reports

Adjournment

Meetings of the Academic Senate are open to members of the University Community. Persons attending the meetings may participate in discussions with the consent of the Senate. Persons desiring to bring items to the attention of the Senate may do so by contacting any member of the Senate.

ACADEMIC SENATE MINUTES

(Not Approved by the Academic Senate)

March 23, 1994

Volume XXV, No. 11

CALL TO ORDER

Chairperson Len Schmaltz called the meeting of the Academic Senate to order at 7:09 p.m. in the Circus Room of the Bone Student Center.

ROLL CALL

Secretary Jan Cook called the roll and declared a quorum present.

APPROVAL OF MINUTES OF FEBRUARY 23, 1994

CORRECTIONS TO MINUTES:

Provost Strand: Page 16, fifth paragraph, second sentence, should read: For example, if a group of faculty members...."

Senator Williams: I would like to state that the Academic Senate should buy the secretary something better than a Toys R Us tape recorder. That is an absurd instrument for this purpose. This is an official record of the University, and comments are incomprehensible on that machine.

XXV-85

Senator Rosenthal moved to approve the Minutes of February 23, 1994, as corrected (Second, Borg). Motion carried on a voice vote.

CHAIRPERSON'S REMARKS

Chairperson Schmaltz: This if the final meeting of the old Senate. I would like to thank each and every one of you for your cooperation and support. You have certainly made the job easier. I am indeed grateful. Particularly, the committee chairs. They do a lot a work and get very little credit for it. I would like to thank the Vice Chair, Renee Mousavi, and the Secretary of the Senate, Jan Cook, as well as Mary Edwards, the Civil Service Secretary.

Not only is one of us retiring from the Senate, but he will also be retiring from the University. Harvey Zeidenstein has been a senator for a long time. We thank him for all his efforts. Good luck in your retirement, and it will not be the same without you.

Senator Zeidenstein: I am going to a Triple A Farm Club.

Chairperson Schmaltz: At the faculty caucus prior to this meeting, with Dr. Ed Hines, our representative to the Illinois Board of Higher Education, we discussed the fact that during the month of April the IBHE will sponsor or have a series of workshops on faculty productivity and all sorts of interesting topics. The faculty caucus asked me to find out how the faculty members will be selected for participation in those two workshops. I asked both the President and the Provost this question prior to the Senate meeting and one of them will comment on that matter in their remarks.

VICE CHAIRPERSON'S REMARKS

Vice Chairperson, Renee Mousavi: I would also like to thank the Senate. I think that we have really been productive this year. I would like to say goodbye to the student senators and to all those that are graduating, good luck.

STUDENT GOVERNMENT ASSOCIATION PRESIDENT'S REMARKS

Student Government Association President, Diane Shaya: I just wanted to say that I think this forum provides an excellent opportunity for students and faculty to work together to solve issues that are pertinent to Illinois State University. I would especially like to thank the student senators for all their hard work this year, and for making a difference by using their voice. I would like to thank the entire Senate for this invaluable experience that I have gotten. Good luck to you all.

ADMINISTRATORS' REMARKS

PRESIDENT WALLACE: At this last meeting of the current Senate, we want to thank the Chair and the Vice Chair for their hard work. We have a certificate of appreciation for both of you. Renee, you did an outstanding job. We really appreciate what you have done, and we wish you good luck, and hope you will remember your experience. Len, we appreciate all your hard work, and you can add this certificate to the rest of your collection.

I cannot shed a great deal of light on the IBHE program for April. The University had a call from Bob Wallhouse of the IBHE one day, who is organizing this program. He named off

a few faculty members who might be interested. However, that is the last we heard from him. We do not know what the program is, who is going to be there, or anything else.

Provost Strand: We are not even aware of who on campus has been invited to this program, because we were not copied on letters of invitation. I have been told by one of the faculty members that was invited that he cannot attend, and I would be happy to receive a name from the Academic Senate this evening or tomorrow to request as a substitution or replacement representative.

Senator Walker: The President and Provost don't know who has been invited, and Dr. Ed Hines, our representative to the IBHE Advisory Committee does not know who has been invited. In the meeting this evening, Dr. Hines stated that if it was OK with the President and Provost, he would like to attend, or just go as an observer. His opinion was that the President and Provost would be the ones to pick faculty members to attend. Your opinion is that someone else is choosing them. I guess the University should know what is going on. The first meeting is April 7th.

Provost Strand: The information that we received came from Ed Hines; that is why we thought he had been invited to attend.

If you would like, I would be pleased to substitute Ed Hines' name for the person who cannot attend.

Senator Liedtke: I think Dr. Hines plans to attend.

Senator Walker: My concern is who is inviting our faculty to represent us, if no one here knows what is going on. How are they being picked or chosen?

President Wallace: I asked the question, if this is faculty productivity that you are talking about, are you interested in people in the instructional technology area? Maybe we need to have Dr. Strand clarify what the program is and who should be invited.

Senator Schroeer: I think the President and Provost need to speak with Dr. Ed Hines about this program.

PROVOST STRAND: I would like to call for an Executive Session to discuss a personnel matter later in the Agenda.

VICE PRESIDENT FOR STUDENT AFFAIRS, WILLIAM GUROWITZ:
had no remarks.

INFORMATION ITEMS

1. Administrative Affairs Committee Presentation of 1995-96 and 1996-97 Academic Calendars

Senator Insel: Dr. Curtis White, Chair of the Administrative Affairs Committee, could not be here this evening and asked me to present the calendars. Senators received a letter from Dr. White and the two calendars in their packets. The only change is dropping the Wednesday previous to Thanksgiving, and reinstating the one day fall break at mid-semester.

Senator Nelsen: Fall break day is a one day break, and Saturday classes are still in session. Is there a change in the 5:30 p.m. dismissal time? Will there be any problem with students traveling during the evening hours?

Senator Insel: I would defer this question to Dr. Gurowitz.

Vice President for Student Affairs, William Gurowitz: We found last year that it is important to have a long weekend in the middle of the semester because it is too long a stretch for students to go all the way to Thanksgiving without a break. The day before Thanksgiving is too late in the year. In terms of the 5:30 dismissal time, students have all day Friday, Saturday, and Sunday.

Senator Stearns: Some of the faculty were caught short in December by a change in the date that grades were due. Formerly, we had one day longer time period. The period of time between the end of the evaluation period and the date grades were due should be longer. It is difficult to grade essay type exams in a short period of time. Is there a need for grades to be turned in Tuesday at noon, rather than Wednesday at noon?

Provost Strand: Dr. Alan Dillingham had to be out of town this evening, and was unable to attend. I will report these questions to him and have him report back to the Senate prior to the Action item on these calendars.

Senator Schroeer: If fall break is near Thanksgiving, what effect does this have on class attendance. Our department experienced a decrease in attendance?

Provost Strand: What we witnessed this year was that many students took the whole week of Thanksgiving off. There was an erosion of student attendance. We consulted with some other campuses, and they found the same thing to be true with an extended Thanksgiving recess.

Senator Schroeer: Was there any information as to whether there was erosion of attendance at the time that there would have been a fall break -- simply students taking a cut day?

Provost Strand: I am not aware of any significant reporting of absenteeism in October.

Senator Nelsen: I would suggest that we not move this item to action because there are too many unanswered questions.

Senator Insel: I am not prepared to bring this forward for action.

Chairperson Schmaltz: Since Dr. White could not be here, I think we will hold off on his request to move it to action.

2. ACADEMIC AFFAIRS COMMITTEE PRESENTATION OF COLLEGE OF ARTS AND SCIENCES PROPOSAL FOR A MINOR IN COGNITIVE SCIENCE

Senator Paul Walker for the Academic Affairs Committee introduced visitors: Lorie Heggie, FOR; Merle Howard, Speech Pathology; Gordon Redding, Psychology; and Lea Adams, Psychology, who were present for questions.

Senators received in their packets a letter from the Academic Affairs Committee regarding the Cognitive Science Minor. The Academic Affairs Committee has reviewed this proposal and unanimously endorses it. I would ask if the Budget Committee cares to report on their findings. There were no requests for new funds.

Senator Nelsen, Chair of the Budget Committee: The Budget Committee had no problems with this proposal. There was no request for new funds. However, the committee thought that if the proposal becomes extremely popular, there might be a need for more funds.

Senator Hoffmann: How many students are expected to enroll in the program?

Lorie Heggie: A small number - perhaps one to two dozen at the beginning.

Senator Kaiser: I assume that a student who begins a particular emphasis and then becomes excited about it and decides to major in that field would then have to choose a secondary emphasis, could he choose a second minor?

Lorie Heggie: Yes.

Senator Kaiser: In the 24-27 hours, which program requires 24 hours and which program requires 27?

Lorie Heggie: That would change at the University level to 24 hours.

Senator Schroeer: I notice that Biology is not involved. Is it not one of the sciences?

Lorie Heggie: There is some interest in that area. Group F has biological science offerings.

Senator Schroeer: What kind of funds will be needed?

Lorie Heggie: The program entails no additional cost to implement. The courses are already offered in the various departments.

Lea Adams: A degree in psychology will incorporate practical experience. The cognitive science minor will address practical problems.

XXV-86

Senator Walker: As Chair of the Academic Affairs Committee, I would like to move this item to Action. (Second, Johnson)

Senator Thomas: What's the rush?

Senator Walker: No rush. This is the final meeting of the old Senate, which will be turning over. Our committee will completely turn over, and we would like to leave with a clean slate. If the Senate does not agree, we can wait until April and the seating of the new Senate.

Vote on moving the item to the action stage carried on a voice vote. One no vote.

XXV-87

Senator Walker: I move approval of the College of Arts and Sciences Proposal for a Minor in Cognitive Science (Second, Borg).

Senator Schroeer: After the Academic Senate approves this, does it go anywhere beyond that?

Provost Strand: It has to be approved by the Board of Regents.

Senator Barker: I was curious about what the budget implications are?

Senator Nelsen, Chair of the Budget Committee: There are no new funds required. All of the classes are already being taught. The only possibility would be if the program were extremely popular and a large number of students enrolled.

(XXV-87)

Vote on motion to approve the Cognitive Science Minor carried on a voice vote. (Copies on file in Academic Senate Office)

3. Student Affairs Committee Presentation of New Student Code of Conduct

XXV-88

Senator Zeidenstein: I move to postpone consideration on this item until the first regular Senate meeting in April. (Second, Thomas)

Parliamentarian Cohen: The motion is debatable and requires a simple majority to pass. This does not pre-empt the work of the Executive Committee in setting the Senate Agenda, because it sets a time for the item to be considered at a later meeting.

Senator Barker: What is the rationale for postponing this?

Senator Zeidenstein: A future senator contacted me and asked that this item be postponed until the new Senate is seated. The new senator is familiar with this and sees some questions or problems to raise. Secondly, there will be a large turnover of both faculty and student senators, and it seems that the important nature of the item should not be an information item for lame duck senators, and then acted upon by a brand new senate.

Senator Wilner: I am 100% behind Senator Zeidenstein.

(XXV-88)

Vote on postponement of information item carried on a voice vote. One negative vote.

ACTION ITEMS

1. July-December, 1994 Academic Senate Meeting Calendar

Chairperson Schmaltz: There is a correction that was added to the orange sheet in front of you. The Board of Regents changed their July meeting, so we moved our meeting (which is subject to call) to July 20th. The Executive Committee will have to call the meeting if there is a need for it.

XXV-89

Motion to approve the July-December 1994 Academic Senate Meeting Calendar by Walker (Second, Razaki) carried on a voice vote.

2. Approval of Student Appointments to University Programming Board Committees

Senator Mousavi: The only change to this slate is on the Entertainment Committee. The fifth person, Chris DeYoung, has prior commitments and cannot serve. The first alternate, Aura Ronna, will take his place.

XXV-90

Senator Mousavi: I move approval of the student appointments to the University Programming Board Committees (Second, Shaya).

Senator Borg: I would appreciate knowing what year in school these students are and what their majors are. For example, on the Entertainment Committee, there is not one student from the College of Fine Arts.

Senator Mousavi: I think that information would be available in the SLAP Office. They are the ones who screen these students.

Senator Ritch: On the pages without a complete list of candidates, what is the status of those appointments?

Senator Shaya: They will reopen applications in the fall. Those are more appointed committees, and they don't go through as strenuous screening process as the Entertainment Committee and Forum. I think they will recruit new members at that time.

(XXV-90)

Vote on approval of student appointments to UPB Committees carried on a voice vote.

ENTERTAINMENT COMMITTEE

Tammy Abel
Lisa Askey
Chris Daniel
David DeLorenzo
Melinda Kerber
Mike Lambert
Rick Mirs
Leslie Pickworth
Genea Pitts
Joanna Plummer
Aura Ronna

Alternate: Janet Davis

STUDENT CENTER PROGRAMMING BOARD

Jennifer Barrett
John Barry
Kevin DeBolt
Steve Lockett
Che Townsend

STUDENT CENTER POLICY BOARD

David Mc Bride
Stacey Hughes
Keith Moran
Robert Seybold
Michael Vreeland

UNIVERSITY FORUM COMMITTEE

Kevin Fitzgerald
Dwayne Fox
Mike Mazur
David Mystic
Loy Olcott
Mary Ryan
Michael Sauvageau
Eric Brandt
Michael Watson

**3. Approval of Rules Committee Recommendations for
Faculty Appointments to Committees**

ELECTION OF FACULTY MEMBERS TO ATHLETIC COUNCIL:

Senator Johnson: The Athletic Council Bylaws state that the Senate has to elect representatives to the Athletic Council. The Bylaws dictate that a minimum of three faculty members should be women and three faculty members should be men. To maintain that balance, we should elect one female faculty member and one male faculty member from the choices offered you on the blue ballot. Senators received a copy of their vita in the packets.

Senator Thomas: I was curious as to why we specify one male and one female. There are various other groups on campus that probably need representation: Lesbian/Gays, Blacks, Hispanics, etc.

Senator Johnson: We would have to change the Athletic Council Bylaws.

Senator Liedtke: Can you tell us how you obtained these names?

Senator Johnson: Those names were chosen from the orange committee preference sheets that faculty members returned. The forms received were culled for eligibility and the ones left were given their first preference whenever possible.

Senator Parr: Is there a way we can find out which of these candidates are for and which are against athletics?

Senator Thomas: Could we for the record clarify the male and female candidates?

Chairperson Schmaltz: The first two candidates on the ballot are female candidates, and the second two candidates are male candidates.

Senator Walker: I would like to say that we are electing these candidates instead of appointing them. Priscilla Matthews makes a statement on her vita as to her position on Athletics. I would encourage that next time we do this, we get a statement from the candidates as to their position. I say that because election is different than appointment.

ATHLETIC COUNCIL MEMBERS ELECTED: Priscilla Matthews,
Milner Library
Kenneth Newgren, MQM

Senator Johnson: Most of these candidates were culled from the faculty preference sheets. Some names were obtained from the colleges. I went to the College of Fine Arts and walked the halls, and obtained the help of Betty Kinzer in Art. Some of the committees require college representation, some have limitations within colleges. There is still one opening for the Student Center Programming Board, which needs a faculty member from Fine Arts.

XXV-91

Senator Johnson: I move approval of the Rules Committee Recommendations for Faculty Appointments to Committees (Second, Schroer). Motion carried on a voice vote. Appointments are as follows:

ACADEMIC STANDARDS COMMITTEE
Kimberly Nance, FOR
Ken Smiciklas, AGR

COUNCIL ON UNIVERSITY STUDIES
Linda Cummins, Social Work
Rathindra Sarathy, Accounting

ENTERTAINMENT COMMITTEE
Three Year Terms (1997)
Connie DeVeer, Theatre
Elighie Wilson, Communication

Two Year Terms (1996)
Saad El-Zanti, Math
Dwayne Goodwin, HPERD

FACULTY ELECTIONS COMMITTEE
Pam Blum, Art
Lynne Lucher, Biology

HONORS COUNCIL
Susan J. Davis, C & I
Kelly Strong, MQM

LIBRARY COMMITTEE
Michael Brunt, Speech Path.
Michael Humphreys, Marketing
Michael Sublett, Geography

REINSTATEMENT COMMITTEE
Connie Horton, Psychology

STUDENT CENTER AUDITORIUM POLICY BOARD
Douglas DeLong, Milner Library

STUDENT CODE ENFORCEMENT & REVIEW BOARD
Connie Garber-Dyar, Home Ec.

SCERB STUDENT GRIEVANCE PANEL
Susan Smith, Sociology
Pat Malik, HPERD

UNIVERSITY CURRICULUM COMMITTEE
Marie DiGiammarino, Music
Guda, Gayle-Evans, C & I
David Loy, Finance & Law
John Hansen, Chemistry

UNIVERSITY FORUM COMMITTEE
Alison Bailey, Philosophy
Maria E. Canabal, Home Ec.

COMMUNICATIONS

Senator Wilner: I look forward to working with all returning senators.

Senate adjourned into Executive Session.

COMMITTEE REPORTS

ACADEMIC AFFAIRS COMMITTEE: Senator Walker: I want to thank the Academic Affairs Committee that I worked with this year. They were an exceptional committee. Their integrity was superior. I felt that they discussed the issues without turf protection. We had some very important issues that came before our committee, the Senate, and the University as a whole, and that was real important quality for them to have. I enjoyed working with them. The Senate should appreciate the hard word that they went to. Many members on Academic Affairs worked over Christmas break to bring the new General Education Program to you. They worked a lot of hours that they don't really receive recognition for. I appreciate having worked with them.

ADMINISTRATIVE AFFAIRS COMMITTEE: No report.

Chairperson Schmaltz thanked the Administrative Affairs Committee members for their work.

BUDGET COMMITTEE: Senator Nelsen had no report. He thanked his committee members for their hard work.

FACULTY AFFAIRS COMMITTEE: Senator Razaki thanked his committee members and the University Review Committee members for their hard work. It has been a very productive year.

RULES COMMITTEE: Senator Johnson thanked the Rules Committee for a good year. We are losing 3/5 of the faculty members as well as the students. A special thank you to Renee Mousavi, Vice Chair of the Senate for her contributions.

STUDENT AFFAIRS COMMITTEE: Senator Casie Page offered thanks to everyone on her committee.

Senator Diane Shaya presented a joint committee report from the Student Affairs Committee and the Faculty Affairs Committee (an advisory statement):

STATEMENT ON CONSENSUAL RELATIONSHIPS

Amatory relationships between faculty and students as well as between supervisors and supervisees are problematic because they can compromise both the academic or work environment and the general campus climate. Consensual relationships within the University community are of concern because of the possibility of: (1) conflict of interest, and (2) abuse of power differential.

In administrative action or lawsuits which may ultimately result from seemingly consensual relationships, consent may be very difficult to prove where a power differential exists. Furthermore, the individual with the power in the relationship will bear the burden of accountability.

Senator Walker: For the record, where will this statement appear?

Senator Ritch: The Affirmative Action Office said this statement will be put in the University Handbook alongside the Sexual Harassment Policy.

Senator Wallace: We are attempting to have documents stating our position if this situation occurs. The new legal counsel is organizing the university policies and statements of non-policy in an appropriate document.

Senator Zeidenstein: You don't know which half this statement will fit into, the policy half or the jaw-boning half?

Senator Wallace: This is not a policy, it is just a statement of expectations from an employer.

Senator Schroeer: It seems to me that this statement should go further.

Senator Shaya: This is only an advisory statement, and it is not a policy.

Senator Ritch: This was the compromise reached by both these committees.

MOTION TO ADJOURN

XXV-92

Motion to adjourn by Zeidenstein (Second, Liedtke) carried on a voice vote. Academic Senate Meeting adjourned at 8:15 p.m.

FOR THE ACADEMIC SENATE

JANET M. COOK, SECRETARY

ILLINOIS STATE
UNIVERSITY

MAR 7 - 1994

COLLEGE OF APPLIED SCIENCE
AND TECHNOLOGY
Department of Agriculture



150 Turner Hall
5020 Illinois State University
Normal, IL 61790-5020
Telephone: (309) 438-5654
Facsimile: (309) 438-5037

TO: Len Schmaltz, Chair
1010 Academic Senate

FROM: Paul Walker, Chair *PMW*
Academic Affairs Committee (AAC)

DATE: March 3, 1994

RE: Cognitive Science Minor

AAC recommends that the Academic Senate approve the College of Arts and Sciences proposal for a minor in Cognitive Science. On March 2, the AAC reviewed the proposal and unanimously endorsed the proposal. Therefore, the AAC requests that the Executive Committee consider the proposal as an Information Item at the March 23 Academic Senate meeting.

PMW:bjt

3.7.94.4

DEC 8 - 1993

Illinois State University
Associate Vice President for Instruction 4000

TO: Mary Edwards, Secretary, Academic Senate Committee
FROM: Betsy Drillon, Secretary, University Curriculum Committee *bd*
RE: Program Approval

DATE: December 6, 1993

ACADEMIC AFFAIRS

Enclosed is a copy of the College of Arts and Science Minor in Cognitive Science which was approved by the University Curriculum Committee on December 1, 1993. Please forward to the Academic Senate Committee for review. Thank you.

Enclosure

12.6.93.1

rec'd 9/23/93

UNIVERSITY CURRICULUM COMMITTEE COVER SHEET
1992-1993
For All Proposals for Undergraduate Program Change

College of Arts and Sciences
Department

April 19, 1993
Date

A. Summary of proposed action (see Part B), including title of new program, and exact Catalog copy for a new or altered program. (See Catalog for format and examples.) Provide a summary of the changes.

The proposed action is to initiate a Minor in Cognitive Science. Please see attached for the Catalog copy.

- B. Proposed Action (More than one item may be checked)
- New--see instructions for submission of new program. (see V, p. 9)
 - Change in requirements for major
 - Change in requirements for minor (See V.1.d., p. 9)
 - Change in requirements for sequence
 - Other program revisions

C. Routing and action summary

Department Chair	Date
<i>[Signature]</i>	4/21/93
College Curriculum Committee Chair	Date
<i>[Signature]</i>	4-21-93
College Dean	Date
Council for Teacher Education (if req, see III, p.4)	Date
<i>[Signature]</i>	12/1/93
University Curriculum Committee	Date

- Approved as submitted
- Not approved
- Approved with modifications (specify below)

Submit 6 copies of Undergraduate only proposals to UCC
Submit 6 copies of Undergrad/Graduate proposal to each UCC & GCC

Minor in Cognitive Science

-A minimum of 24-27 hours required for the minor, depending on the area of emphasis chosen and the level of preparation of student. Programs must be planned in consultation with an advisor. Students are required to seek an Advisor through the Director of Cognitive Science Studies.

-Required courses: a planned course of study approved by a Cognitive Science Studies Advisor to be coordinated around an area of emphasis which is outside of the student's major using the following guidelines:

Computer Science emphasis: MAT 145, ACS 278, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from Group B, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Linguistics emphasis: PHI 210, ENG 341, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group C, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Philosophy emphasis: PHI 210, PHI 305, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group D, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Psychology emphasis: PSY 240, PSY 366, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group E, 2 elective courses (6 hours) from groups B, C, D, E, or F.

Group A (Quantitative Skills): MAT 145, MAT 146, MAT 175, MAT 260, PHI 210 (MAT 210), PHI 212 (MAT 212), PSY 240

Group B (Computer Science): ACS 168, ACS 255, ACS 275, ACS 278, ACS 368, ACS 385, ACS 388

Group C (Linguistics): ENG 241, ENG 243, ENG 245, ENG 310, ENG 341, ENG 344, FOR 309, FOR 310, FOR 290.16, PAS 211, PAS 301, PAS 310, PAS 320, SOA 277, COM 324, COM 370

Group D (Philosophy): PHI 250, PHI 253, PHI 255, PHI 305, PHI 361

Group E (Psychology): PSY 231, PSY 331.04, PSY 331.07, PSY 360,
PSY 361, PSY 363, PSY 366

Group F (Other Related Courses): BSC 390, SOA 286, SOA 288, SOA
290

**REQUEST FOR APPROVAL OF A SUBDIVISION OF A
DEGREE MAJOR**

1. **Institution:** Illinois State University
2. **Responsible Department:** College of Arts and Sciences
3. **Program Title:** Minor in Cognitive Science
4. **Previous Program Title:** NA
5. **CIPS Code:**
6. **Date of Implementation:** August, 1994
7. **Description of Proposed Program:**

Cognitive Science is a pioneering interdisciplinary field which in the past thirty years has set as its task the study of "intelligent systems, both biological and artificial".¹ Drawing from the fields of computer science, linguistics, philosophy, and psychology, with strong links to anthropology, education, the neurosciences, physics and engineering, this field of inquiry focuses on questions extending from the modeling of language and mental development in children to the representation of neural networks of knowledge, results of which research are now being used in robotics and other industrial applications. At Illinois State University, the field of Cognitive Science is currently represented in an unstructured way in the departments of Applied Computer Science, Biology, Communication, English, Foreign Languages, Philosophy, Psychology, Speech Pathology and Audiology, and Sociology and Anthropology. The proposed Minor in Cognitive Science will coordinate the present course offerings into a coherent framework for study in Cognitive Science, allowing students to pursue in a more rigorous fashion their interest in how knowledge is acquired and represented. The result will be students who are better prepared and more marketable for the competitive technological society of the twenty-first century. As an emerging area of inquiry, Cognitive Science is likely to be a major field in the expansion of human knowledge in the

¹ 1992 Planning Workshop to Strengthen American Cognitive Science for the 21st Century Report, published by the National Science Foundation.

coming century. Furthermore, the field provides a system for understanding human intellectual processes such as logical and critical thinking, synthesis and independent learning. As such, it has much to contribute to the central mission of Illinois State University. This proposal constitutes a reasonable and moderate extension of existing programs and entails no additional cost to implement.

The plan of study is designed to complement the program of students who major in Computer Science, Philosophy, Psychology, or Language, without being limited to these majors. Given the nature of this field and the fact that interests extend in many different directions, there is no single introductory course for this program. Instead, for the purposes of the minor, students must acquire the skills and knowledge requisite to a basic understanding of Cognitive Science. Students first encounter subject matter related to Cognitive Science in the 100-level courses offered in the participating departments--ACS 155, PHI 101, PSY 111, and ENG 141--courses all listed as University Studies courses. To pursue the Minor in Cognitive Science, students will then choose an area of quantitative skills fundamental to the study of Cognitive Science, either logic, statistics, or calculus, and an area of emphasis which is outside their major. For example, a computer science student might emphasize linguistics, a psychology major might choose computer science, a student in language might elect philosophy, and a philosophy major might choose psychology. Moreover, the program contains the flexibility to allow students to pursue even a tertiary emphasis through the two electives which they must take. In this way, the student will begin to develop the interdisciplinary understanding of the mind which characterizes Cognitive Science.

Coursework topics include a grounding in quantitative/analytical skills, computational domains such as data structures, artificial intelligence and parallel programming, philosophical issues in language, the philosophy of science and the theory of knowledge, psychological issues such as the nature of perception, learning and cognition, and linguistic areas of study such as the nature of grammar and its universality, language acquisition, acoustic phonetics, language variation and culture, and the study of specific language grammars. These courses are all standard offerings within each department, thus resulting in a very cost effective program.

The curriculum for the proposed Minor in Cognitive Science is as follows:

Minor in Cognitive Science

-A minimum of 24-27 hours required for the minor, depending on the area of emphasis chosen and the level of preparation of student. Programs must be planned in consultation with an advisor. Students are required to seek an Advisor through the Director of Cognitive Science Studies.

-Required courses: a planned course of study approved by a Cognitive Science Studies Advisor to be coordinated around an area of emphasis which is outside of the student's major using the following guidelines:

Computer Science emphasis: MAT 145, ACS 278, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from Group B, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Linguistics emphasis: PHI 210, ENG 341, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group C, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Philosophy emphasis: PHI 210, PHI 305, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group D, and 2 elective courses (6 hours) from groups B, C, D, E, or F.

Psychology emphasis: PSY 240, PSY 366, 2 courses (6 hours) from Groups A and/or B, 2 courses (6 hours) from group E, 2 elective courses (6 hours) from groups B, C, D, E, or F.

Group A (Quantitative Skills): These courses provide the basic quantitative skills required in order to pursue study in Cognitive Science. Calculus is needed for work in Computer Science; Logic is basic to work in Linguistics and Philosophy; Statistics is necessary for Psychology. The other courses provide additional opportunity to hone analytical skills and learn more about relevant topics such as "set theory".

MAT 145	Calculus I
MAT 146	Calculus II
MAT 175	Linear Algebra
MAT 260	Discrete Mathematics
PHI 210 (MAT 210)	Symbolic Logic I
PHI 212 (MAT 212)	Symbolic Logic II
PSY 240	Statistics I

Group B (Computer Science): These courses provide coverage of the discipline of computing, developing the student's understanding of artificial intelligent systems. In these courses, students will learn to apply their knowledge to a specific, constrained problem in for example information processing and storage, and produce a solution. Students choosing Computer Science as their area of emphasis must take ACS 278.

ACS 168	Structured Problem Solving and the Computer
ACS 255	Microcomputer Application and Design I
ACS 275	C as a Second Language
ACS 278	Data Structures
ACS 368	Topics in System Design
ACS 385	Topics in Computer Science
ACS 388	Introduction to Parallel Programming

Group C (Linguistics): These courses explore language from all the different perspectives provided by the field of linguistics: syntax, semantics, pragmatics, discourse, historical language change, psycholinguistics (eg., first and second language acquisition), sociolinguistics, and neurolinguistics. Students choosing Linguistics as their area of emphasis must take ENG 341.

ENG 241	Growth and Structure of the English Language
ENG 243	Traditional and Non-Traditional Grammars
ENG 245	General Semantics (Cognitive Semantics)
ENG 310	History and Development of the English Language
ENG 341	Introduction to Descriptive Linguistics
ENG 344	Teaching English as a Second Language: Theoretical Foundations
FOR 309	Phonetics (French, German)
FOR 309.15	Introduction to Spanish Linguistics
FOR 310	Syntax/Advanced Grammar (French, Spanish)
FOR 290.16	Advanced Russian Syntax
PAS 211	Phonetics (English)
PAS 301	Speech Science
PAS 310	Neural Basis of Speech and Language
PAS 320	Speech and Language Development
SOA 277	Language and Culture
COM 324	Persuasion
COM 370	Psychology of Language

Group D (Philosophy): These courses cover the areas of formal and natural language semantics, compositionality and categorial grammar, language learnability, the analysis of propositional attitudes, intensional logics, dynamic and nonmonotonic logics, dualism and the pre-scientific view of mind, functionalism, mental representations and the language of thought, the problem of consciousness, the Turing Test, and the nature of scientific inquiry. Students choosing Philosophy as their area of emphasis must take PHI 305.

PHI 250	Philosophy of Science
PHI 253	Philosophy and the Behavioral Sciences
PHI 255	Modern Philosophy
PHI 305	20th Century Philosophy (Philosophy of Mind and Language)
PHI 361	Theory of Knowledge

Group E (Psychology): An emphasis in this area focusses on the structural and processing components of naturally intelligent systems as well as the methodology typically used in studying those components. This endeavor is represented by studies in the areas of learning, cognition, perception, and physiological psychology. Students choosing Psychology as their area of emphasis must take PSY 366.

PSY 231	Experimental Psychology (Research Methods)
PSY 331.04	Experimental Psychology: Perceptual
PSY 331.07	Experimental Psychology: Studies in Cognitive Processes
PSY 360	Learning
PSY 361	Perception
PSY 363	Physiological Psychology
PSY 366	Cognitive Psychology

Group F (Other Related Courses): These courses complement the other offerings by exploring concepts of evolution, the biological aspects of which provide insights into fundamental mechanisms and strategies of the brain.

BSC 390	Evolution
SOA 286	Human Evolution
SOA 288	Human Variation and Adaptation
SOA 290	Primate Studies

Model Programs:

The following programs are examples of the types of tracks a student may choose to follow. It is important to note, however, that the result of any one particular program will be uniquely bound to the individual interests and major of the student. Thus, a computer science major and a psychology major may both wish to emphasize linguistics, but for very different reasons. These differing reasons will result in different impacts on the respective majors. The computer science major may wish to gain a better understanding of human language in order to write a software program which teaches some aspect of language such as a sound system or grammar system; the psychology major may be interested in studying the nature of learning and want to know more about language properties in order to interpret more accurately the early acquisition of language in children. The objective of the Minor is to enhance a student's developing understanding of his or her major by building a cross-disciplinary, and thus strengthened, perspective on cognition. The expected outcome of this endeavor is students with an increased capacity for critical thinking, synthesis, and independent learning. In order to evaluate the success of the Cognitive Science Minor, students will be surveyed prior to graduation and asked to report on their learning experience.

Example A (Computer Science major with a linguistics emphasis):

PHI 210, PHI 212, MAT 145 (overlap with major²), ENG 341, ENG 245, ENG 243, 2 optional courses such as PHI 250, ACS 278 (overlap with major), ENG 241, PAS 211.

Example B (Psychology major with a computer science emphasis):

MAT 145 (overlap with major), PSY 240, PHI 210, ACS 168, ACS 169 (prerequisite to ACS 255/278), ACS 255, ACS 278, 2 optional courses such as PAS 320, PHI 253, PSY 360 or 366 (overlap with major).

Example C (Language major with Philosophy emphasis):

PHI 210, PHI 212, ACS 168, PHI 250, PHI 255, PHI 305, 2 optional courses such as PHI 361, ENG 341, SOA 277, PAS 320, or any two courses under Group C which overlap with the major.

Example D (Philosophy major with Psychology emphasis):

PHI 210 (overlap with major), PHI 212 or ACS 168, PSY 111 (prerequisite to PSY courses), PSY 240, PSY 231, PSY 331, PSY 366, 2 optional courses such as PSY 360, PHI 361 (overlap with major), or SOA 277 (ANT 180 prerequisite).

It is also expected that students from majors other than those listed above may be interested in pursuing this Minor. Hence, the wide range of courses listed in areas such as Math, Biology, and Anthropology.

8. Rationale for Proposal:

Over the past 30 years, the study of the brain, language, computers, and all of their interactions and connections has slowly developed into a field in its own right, Cognitive Science. This discipline draws relevant input from many different research areas-- psychology, linguistics, computer science, philosophy, anthropology, education, the neurosciences--while exploring questions such as "how people make decisions, how memories are stored, how computers can best be constructed and programmed, and how humans can interact optimally in an increasingly computer-oriented

² Students are allowed up to nine hours of a Minor to overlap with their Major.

environment."³ Cognitive Scientists must not only be aware of for example, psychological perspectives on a problem such as memory or perception, but must also have an understanding of the computational and linguistic models that are relevant to the inquiry. A person cannot begin to grasp the nature of the problem without this larger, interdisciplinary perspective. It is no longer sufficient for a person to have a degree only in psychology if the goal is to study the nature of the human mind; Cognitive Science as an interdisciplinary field is slowly reordering the traditional categorizations.

Direct evidence for this claim comes from the fact that the Massachusetts Institute of Technology has incorporated its Department of Psychology within the Department of Cognitive and Brain Sciences. Moreover, the number of Cognitive Science Programs in the United States has steadily increased since the first interdisciplinary conference on Cognitive Science in 1977 and the establishment of the Cognitive Science Society in 1979. A large number of these new programs are undergraduate bachelor of arts degrees at private liberal arts colleges such as Northwestern University, Lehigh University, Williams College and the University of Rochester. The larger research institutions concentrate on Cognitive Science at the graduate level; for example Johns Hopkins has been developing a graduate program in Cognitive Science, and the University of Illinois is doing the same in conjunction with the Beckman Institute, one of whose main divisions is Cognitive Science.

As the premier undergraduate institution of downstate Illinois, it is appropriate and wise that Illinois State University initiate a program in Cognitive Science. A Minor in Cognitive Science will support a number of themes proposed in the Illinois State University Mission Statement of 1990. Namely, it will provide increased opportunities for students "to increase their capacity for inquiry, logical thinking, critical analysis, and synthesis, and to apply these abilities in the pursuit of one's discipline." Taking a minor in Cognitive Science will allow students to integrate knowledge and synthesize learning experiences to an uncommon degree by allowing them to approach similar questions about intelligent systems from the perspectives of different disciplines, thus supporting Academic Planning Priority Two: Teaching/Learning Methods. These experiences in turn will address the concerns of Teacher Education

³Ibid.

described in Academic Planning Priority Seven. As recommended in the 1985 Report of the Chancellor's Task Force on Quality Education Programming, teacher education "should involve elements of the academic community other than those directly involved in teacher education, particularly Arts and Sciences."⁴ Courses in Cognitive Science offer a natural arena for future teachers to expand their knowledge in a programmatic and cohesive manner. In particular, the inquiry into the nature of learning and the mind is developed and explored in a number of courses within the Minor in Cognitive Science. The proposed Minor thus enhances existing programs in the preparation of teachers.

Moreover, very few universities like Illinois State University have implemented a minor, let alone a major, in Cognitive Science. This step will help to establish Illinois State University as an educational leader in Cognitive Science. At the present time, only one Bachelor of Arts degree in Cognitive Science is being offered in the State of Illinois, at Northwestern University. Otherwise, offerings at the undergraduate level in Cognitive Science are quite scattered, the program at the University of Illinois, Urbana being primarily aimed at graduate students. Taking into account the inherent differences in scope between a major and a minor, the proposed Minor in Cognitive Science compares favorably to these bachelor degree programs (see Appendix B for the programs at University of Rochester, Lehigh University, Northwestern University). In each case, the degree program has been designed to introduce students to a solid foundation in the study of cognition, linguistics, philosophy, and computer science while providing training in quantitative skills such as logic, statistics, and programming languages. These goals are mirrored in the design of the proposed Minor in Cognitive Science for Illinois State University.

Directly relevant to this issue is the fact that the National Science Foundation has reported a lack of cohesion in undergraduate education and the need for the development of "programs of undergraduate study that would constitute preparation for graduate work in Cognitive Science."⁵ By implementing this proposal for a Minor in Cognitive Science at Illinois State University, undergraduate students would receive a true headstart into the

⁴Illinois State University Academic Plan, 1993-1998 (Abbreviated Version), p. 30.

⁵1992 Planning Workshop to Strengthen American Cognitive Science for the 21st Century Report, published by the National Science Foundation.

twenty-first century, enhancing their opportunities for graduate school and increasing their job marketability. Individuals with a background in Cognitive Science are regularly hired at places such as Microsoft, IBM, Honeywell, and AT&T.

An understanding of Cognitive Science will provide students with some of the tools that will become necessary to be informed citizens in the twenty-first century. As recognized by the National Science Foundation:

Cognitive Science, the study of intelligent systems, both biological and artificial, can provide fundamental new knowledge supporting America's efforts to regain world leadership in the education of its citizens and in industrial competitiveness. In the educational sphere, understanding of human intellectual processes provided by Cognitive Science research can help each student learn as much as he or she can. In the industrial sector, Cognitive Science approaches can help develop intelligent manufacturing systems and can guide computer design. For all these reasons, Cognitive Science research can have a significant economic impact.⁶

Most importantly, interest in Cognitive Science is already strong and present at Illinois State University. Computer science students are proposing projects on "neural networks," language students are comparing structural properties of grammar to organic biological structures, and psychology students are studying the development and structure of underlying knowledge representation in order to predict transfer of information, levels of expertise, question answering and effectiveness of educational strategies. A Minor in Cognitive Science will further invite this type of cross-disciplinary inquiry and discussion and promote an integrative curriculum.

Faculty interest is not only high, but experienced. To name only a few of the participating faculty:

Thomas Simon, Chair of the Philosophy Department, convened one of the first interdisciplinary conferences in Cognitive Science, started the Society for the Study of Mind, Brain, and Machine, and collaborated on the *Brain Theory Newsletter*, which eventually became part of *Cognitive Science*.

⁶ibid.

Harry Deutsch, Professor of Philosophy, is a logician and philosopher of language. He studied with Richard Montague in the sixties at UCLA. He is currently working on papers on categorial grammars, intensional logics with temporal operators, and the semantics of so-called "natural kind terms".

Lea Adams, Assistant Professor of Psychology, is a cognitive psychologist who has worked in the private sector as a Senior Research Scientist in Honeywell's Man-Machine Sciences Group and as Director of a Human-Machine Sciences Laboratory for Bellcore. She does research in spontaneous access of information during problem solving and how knowledge representation affects memory, inference generation, and retrieval.

Joaquin Vila, Assistant Professor of Applied Computer Sciences, has developed a software program which teaches lipreading and sign language, a task intricately bound to linguistics and perception. He also works on the identification of user preferences and navigational patterns in multimedia environments.

Lorie Heggie, Assistant Professor of Foreign Languages, is a theoretical syntactician working within the framework of generative grammar as developed at MIT. She studies the interface between syntax and semantics, working for example on the identity of elements in a predication relation and the relation of those elements to natural discourse.

Bruce Hawkins, Assistant Professor of English, works within the theory of Cognitive Grammar and Semantics, applying this framework to questions in second language acquisition and thus providing crucial links between linguistics and psychology.

Gordon Redding, Professor of Psychology, developed such an interest in Cognitive Science that he established a course in Cognitive Science at the graduate level, an effort which required him to study a number of fields outside of his research domain in perception. (See the Appendix A for a partial list of faculty in Cognitive Science.)

These faculty members, as well as others, have been meeting once a week since Fall 1992 in an effort to create links, develop colloquia, and design a program to meet the needs of our students. Less frequent meetings of faculty interested in Cognitive Science

actually were initiated in the Fall of 1990. Several speakers were brought to campus in the Spring of 1991 and 1992, and the tradition of colloquia is continuing in the Spring of 1993. As is self-evident, Cognitive Science is alive and well at Illinois State University. The successful development of a Minor in Cognitive Science will encourage it to remain so.

9. Expected Impact on Existing Campus Programs:

The initiation of the present proposal for a Minor in Cognitive Science is anticipated to have a positive impact on existing campus programs by providing programmatic and cohesive guidelines for the study of Cognitive Science. This belief is supported by strong student and faculty interest. Recent lectures in Cognitive Science (L. Heggie, 3/26/93 and G. Redding, 4/9/93) were well attended by students and faculty from the Departments of Psychology, Philosophy, English, Foreign Languages, and Speech Pathology and Audiology. These talks provided the opportunity for the cross-fertilization and learning of ideas not only for faculty, but also students; for example, one student asking for references about automated transition networks was able to talk to several different professors from different backgrounds. It is anticipated that student interest will only grow as students become familiar with the option for a Minor in Cognitive Science. Expectations are for 20 to 30 students to enroll initially in this program.

Not only do students and faculty support this program, but letters from ten department chairpersons across two colleges have been collected in support of this proposal. The Minor in Cognitive Science has thus received enthusiastic, solid backing from its constituents.

10. Expected Curricular Changes:

No curricular changes are necessary at this time. All courses in the Minor for Cognitive Sciences are offered on a regular basis, and those professors teaching these courses would welcome students minoring in Cognitive Science. (See attached Letters of Support from the Department Chairs.)

11. Anticipated Staffing Arrangements:

No new staffing will be needed in order to implement the Minor. The existing faculties in the participating departments will continue to offer the relevant existing courses. Attached are statements from the participating department chairs attesting to the fact that these courses will be offered and can absorb the relatively small increases in enrollment which might occur in the first years of the program.

Given the very broad cross-section of courses, the administration of the program will be housed in the College of Arts and Sciences. Each of the departments contributing to the program will appoint a faculty member to the steering committee for the Cognitive Science Minor program. Upon recommendation of the steering committee, a Director of Studies in Cognitive Science will be appointed by the Dean of the College of Arts and Sciences annually. This person will be responsible for coordination of the program; duties will include work with department chairs to ensure that courses necessary to the program are available to students, assignment of advisors, evaluation of student progress and outcomes, and representation of the program within the university community. These activities can be handled within current assignment load. Advisement of individual students will be handled by participating faculty members within each department.

12. Anticipated Funding Needs:

No new funds are necessary to implement the Minor.

Appendix A

Cognitive Science Faculty at Illinois State University

APPLIED COMPUTER SCIENCE

Joaquin Vila

BIOLOGICAL SCIENCES

Angelo Capparella

Charles Thompson

COMMUNICATION

Sandra Metts

ENGLISH

Irene Brosnahan

Bruce Hawkins

Margaret Steffensen

FOREIGN LANGUAGES

Mark Davies

Lorie Heggie

Mark Kaiser

Kirk Widdison

PHILOSOPHY

David Anderson

Harry Deutsch

Thomas Simon

PSYCHOLOGY

Lea Adams

Laura Berk

Gordon Redding

Jeff Walczyk

SOCIOLOGY AND ANTHROPOLOGY

Martin Nickels

James Stanlaw

SPEECH PATHOLOGY AND AUDIOLOGY

Merle Howard

Patricia Monoson

Mary Evelyn Moore

Roger Towne

ADDITIONAL FACULTY WITH INTERESTS IN COGNITIVE SCIENCE

BUSINESS

Dale Fitzgibbons

University of Rochester

PROGRAM, PROPOSAL, OR DISCUSSION: Program

PROGRAM: separate interdisciplinary program

NUMBER OF STUDENTS: seniors: 19 juniors: 19 sophomores: 0 freshmen: 0

YEAR PROGRAM BEGUN: 1982 - Individualized Inter-departmental Major
1984 - B.A. in Cognitive Science approved by State
of New York for University of Rochester

REQUIREMENTS FOR GRADUATION:

Required Core Courses:

COG 101 Introduction to Cognitive Science
COG 271 Seminar in the Philosophy of Cognitive Science
LIN 101 Introduction to Linguistics
PSY 131 Cognition
PHL 210 Logic
PHL 254 Philosophy of Psychology
CSC 181 Introduction to Computer Science (required for below)
CSC 206 Artificial Intelligence Programming: LISP (required for
below)
CSC 240 Artificial Intelligence

one of the following:

PSY 141 Biopsychology
PSY 151 Sensation and Perception
MSC 241 Neurobiology of Behavior

Track courses:

4 additional courses with a single theme (e.g., four courses
related to vision)

Total courses: 14

COURSE DESCRIPTIONS OF COGNITIVE SCIENCE COURSES:

COG 101 Introduction to Cognitive Science:

This course introduces students to the goals and methods of
cognitive science.

COG 271 Seminar in Philosophy of Cognitive Science

Covers readings in the history of cognitive science. Interesting selections from Freud, Watson, Skinner, Wertheimer, Tolman, Lashley, Goedel, Turing, von Neumann, Chomsky, Rosenblatt and Fodor.

COG 371 Seminar in Cognitive Science: Connectionist Models

An intense, research oriented, seminar on massively parallel (connectionist) models in perception and cognition. Reading and class presentation from the current literature. Students do exercises on the local simulator and a term project. Experience with UNIX and C and the cognitive science core curriculum or equivalent are highly recommended.

COG 202 Syntactic Theory

An introduction to the formal theoretical framework of generative syntax embodied in Chomsky's Government-Binding Theory. This framework uses a modular approach, in that there are a number of sub-theories, i.e., Case Theory and government (which deal with the structural selection of elements within a sentence), Binding (which deals with co-reference relations), and θ -theory (the assignment of semantic relations). These modules interact under the constraint of certain overriding principles and parameters; the setting of individual parameters by an individual language in accordance with these principles conspires to determine the structure of a particular language. Topics covered besides the above include the roles of phrase structure and the lexicon, constraints on representations, representations of meaning, the Projection Principle, the Empty Category Principle, and the theory of Barriers to government and movement.

COG 309 Neurobiological Vehicles: An Introduction to Neural Networks

Neurobiological 'Gedankenexperimente' is used to approach questions about architectural understanding and functional modelling of brain networks. A basis of the biological aspects of nervous systems is given.

This course starts with a discussion of the book Vehicles: Experiments in Synthetic Psychology by Valentino Braitenberg. "The 14 vehicles...represent a series of hypothetical, self-operating machines that exhibit increasingly intricate, if not always successful or civilized, 'behavior,' the kind that neuroscientists describe in real animals." Will it help us to understand the brain which we investigate anatomically, physiologically and psychologically, if we model pseudo intelligent machines, always having biological 'hardware' in

mind; and look at their behavior? Special emphasis is laid on the chapter on "Biological Notes on the Vehicles". Available with the book are programs for the Apple Macintosh Computer simulating vehicles with simple built-in algorithms.

The second part of the course gives more traditional background on invertebrate and vertebrate nervous systems, anatomical, physiological and functional. From Neuron to Brain - A Cellular Approach to the Nervous System by Knuffler/Nicholls is the textbook to go along with this part of the course. In particular, known properties about the visual system in higher mammals, and the language system in humans, and their possible functional representations is discussed.



CogSci News

Cognitive Science Program, Lehigh University, Bethlehem, PA.

Volume 5, Number 1
Spring 1992

Editorial Staff

John B. Gatewood, Editor
Gordon C. F. Beam
Glenn D. Blank
Martin L. Richter
S. Lloyd Williams

Editorial Policy

This newsletter is published twice each year, in fall and spring issues, by the Cognitive Science Program at Lehigh University. Its purpose is to inform faculty and students about the interdisciplinary and rapidly growing field of cognitive science and to report the activities of Lehigh's Program.

The newsletter is distributed free of charge in the United States and Canada to academic programs and individuals interested in cognitive science. Anyone who would like to be added to the mailing list should notify the Editor.

The Editorial Staff welcomes readers' comments and *solicited materials* dealing with cognitive science. We are especially pleased to consider course syllabi, book reviews, short essays, brief descriptions of scholarship and research in progress, and original art work (e.g., cartoons, line-drawings, computer-generated images).

Address all submissions, comments, and subscription requests to: John B. Gatewood, CogSci News, Lehigh University, 681 Taylor St., Bethlehem, PA 18015-3169. Send electronic mail to jbg1@Lehigh.edu.

Lehigh Revises Cognitive Science Major

Edwin J. Kay
Director, Cognitive Science Program
Lehigh University

The Cognitive Science Program at Lehigh was initiated in the fall of 1986. After six years, i.e., in the spring of 1992, the Cognitive Science Supervisory Committee has decided to make some changes to the original undergraduate curriculum. Below, I describe the original curriculum and then discuss the changes we have made to it as well as the reasons. In a number of cases, I will refer to the number of credit hours for a course. Lehigh's semesters are 16 weeks long, including a two week exam period, and a typical course meets three times a week (42 classroom hours throughout the semester) for three credits.

Cognitive science is a bachelor of arts major in the Lehigh's College of Arts and Science. Most of the major programs in the college are directed by departments, whereas the cognitive science major is directed by an interdisciplinary committee. Most courses in the major are drawn from the departments. Although the Cognitive Science Program does offer a few courses under its own course designator—"CogS"—these, too, are staffed by members of various participating departments.

The original curriculum required a minimum of 47 credits, considerably more than the typical social science or humanities B.A. program (which range from 30-38 credits). Its requirements were as follows.

Introduction to Cognitive Science (7 credits), a sequence of two sophomore year courses: CogS 101 covering the conceptual underpinnings and history of cognitive science, and CogS 102 covering the

mathematical tools most widely used in cognitive science.

Collateral Requirements (7-11 credits): differential calculus, and structured programming and data structures.

Disciplinary Core Courses (12 credits), four courses, one from each of the disciplines most central to cognitive science:

Psyc 117 Cognitive Psychology
CogS 140 Introduction to Descriptive Linguistics
Phil 250 The Minds of Men and Robots
CSc 327 Artificial Intelligence Applications

Major Electives (18 credits), two courses from any three of the following areas:

Artificial Intelligence and Expert Systems
CSc 262 Programming Languages
CSc 365 Natural Language Understanding
CSc 368 Artificial Intelligence Programming

Formal Models

Phil 114 Fundamentals of Logic
Phil 214 Logical Theory
CSc 261 Discrete Structures (calculus prerequisite)
CSc 318 Automata and Formal Grammars

Philosophy

Phil 139 Contemporary Philosophy
Phil 220 Knowledge and Justification
Phil 251 Action, Free Will, and Fate
Cognitive Psychology
Psyc 307 Seminar in Cognition
Psyc 320 Psycholinguistics
Psyc 351 Cognitive Development in Childhood

(continued on page 2)

Curricular Changes (cont.)

Sociocultural Influences on Cognition

SPrs 135 Human Communication
SPrs 314 Attitudes, Attributions, and
Actions

Anth 376 Mind, Self, and Culture

Neuroscience

Psyc 176 Introduction to Cognitive
Neuroscience

Psyc 177 Introduction to Physio-
logical Psychology

Psyc 373 Sensation and Perception

Psyc 375 Neuroanatomy of Behavior
Senior Seminar (3 credits).

Although the original curriculum remains, in our view, pedagogically sound, it attracted relatively few students. This fact prompted a reassessment of the requirements as they appear from a student's perspective. Examined in this way, most of the problem seemed to stem from the structure and timing of the B.A. degree in the College of Arts and Science.

Students in the college must declare their major by the middle of their fourth semester, but many often do so at the end of their first year or at the beginning of their sophomore year. Because the first introductory course in cognitive science was not available to freshmen, many students had already declared a major before having any exposure to cognitive science. Thus, our first change was simply to renumber the introductory course—from

CogS 101 to CogS 7—so as to make it available to first year students.

The second change also involved the introductory sequence. We discovered that CogS 102 (the formal models introductory course) overlapped substantially with a lower level mathematics course. Further, because the Cognitive Science Program depends on faculty volunteered by other departments to teach its courses, it has been difficult staffing the second semester's introductory course. Thus, we simply dropped CogS 102 from the course catalog and added its counterpart, Math 9, as a collateral requirement for the cognitive science major.

At the same time, we re-thought the role of differential calculus in our curriculum. With the exception of a single "major elective" course, differential calculus was not a prerequisite for any other course in the major. Further, the committee felt that one could be the competent cognitive scientist without differential calculus. Thus, we removed it as a collateral requirement, warning students that differential calculus is prerequisite to CSc 261.

The final change involved the introductory linguistics course, which is offered by the Cognitive Science Program in the absence of linguistics courses elsewhere in the university. To give it greater visibility, we cross-listed it with Anthropology, Psychology, and Modern Foreign Languages.

After these changes, the new curriculum consists of a minimum of 43 credits as follows.

Introduction to Cognitive Science (3 credits): CogS 7, a one semester, first year course.

Collateral Requirements (7-10 credits): finite mathematics, and structured programming and data structures.

Disciplinary Core Courses (12 credits), four courses, one from each of the disciplines most central to cognitive science:

Psyc 117 Cognitive Psychology

CogS 140 Introduction to Descriptive
Linguistics

Phil 250 The Minds of Men and
Robots

CSc 327 Artificial Intelligence
Applications

Major Electives (18 credits), two courses from any three of the following areas:

Artificial Intelligence and Expert Systems

CSc 262 Programming Languages

CSc 365 Natural Language Under-
standing

CSc 368 Artificial Intelligence
Programming

Formal Models

Phil 114 Fundamentals of Logic

Phil 214 Logical Theory

CSc 261 Discrete Structures (calculus
prerequisite)

CSc 318 Automata and Formal
Grammars

Philosophy

Phil 139 Contemporary Philosophy

Phil 220 Knowledge and Justification

Phil 251 Action, Free Will, and Fate

Cognitive Psychology

Psyc 307 Seminar in Cognition

Psyc 320 Psycholinguistics

Psyc 351 Cognitive Development in
Childhood

Sociocultural Influences on Cognition

SPrs 135 Human Communication

SPrs 314 Attitudes, Attributions, and
Actions

Anth 376 Mind, Self, and Culture

Neuroscience

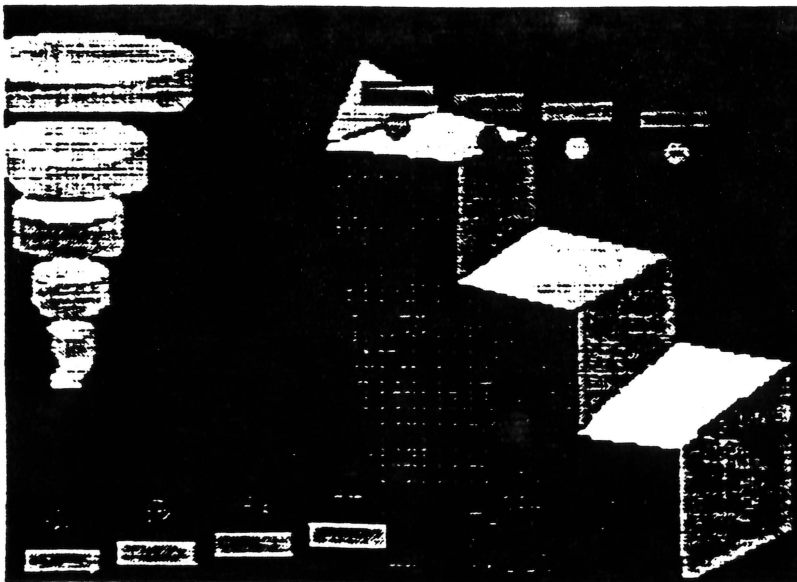
Psyc 176 Introduction to Cognitive
Neuroscience

Psyc 177 Introduction to Physio-
logical Psychology

Psyc 373 Sensation and Perception

Psyc 375 Neuroanatomy of Behavior
Senior Seminar (3 credits).

We hope these curricular modifications will increase the attractiveness of the cognitive science major to students in the College of Arts and Science, but only time will tell...



(computerized image by Stefania Giobbe)

Introducing **Cognitive Science** *at Northwestern*

How are ideas represented in the mind?

Are different kinds of concepts stored in different parts of the brain?

What is intelligence?

Can computers think?

Is the capacity for language innate?

How are perception, language and thought related?

Cognitive Science is the scientific study of the mind. How we think is a topic that is both intrinsically fascinating and of immense theoretical and applied importance.

Questions about the nature of the mind have been asked throughout human existence, yet gaining a complete understanding of cognition has remained among the most difficult of scientific pursuits. The daunting complexity of the brain, the remarkable flexibility of human thought, and the apparent paradox of a brain being able to understand itself have combined to make this goal elusive. However, in recent years, a set of promising new ways of studying the mind have emerged as a result of two forces: (1) the interaction of scientists studying cognition in a variety of disciplines and (2) the advent of electronic computers, which make it possible to build testable models—in the form of computer programs—of various aspects of intelligence.

The Cognitive Science major is interdisciplinary, encompassing cognitive psychology, linguistics, artificial intelligence, neuroscience, and other fields as well. What brings these fields together is the central idea that our different methods and perspectives can be combined to achieve the common goal of understanding the nature of human thought.

The Cognitive Science faculty is drawn primarily from the Psychology, Linguistics, and Computer Science Departments. The Cognitive Science office is in Swift 102. Psychology faculty offices are in Swift Hall (2029 Sheridan Rd) and Cresap Laboratory (2021 Sheridan Rd). Faculty in Artificial Intelligence have offices primarily at the Institute for Learning Sciences (1890 Maple Ave.). Linguistics faculty are located both in Swift Hall (2029 Sheridan Rd) and at 2016 Sheridan Rd.

WHAT TO DO WITH A MAJOR IN COGNITIVE SCIENCE

Many students choose a Cognitive Science major in preparation for further education at the graduate level. Training in Cognitive Science will provide the student with a solid foundation for graduate level work in any area of cognitive studies: psychology, artificial intelligence, linguistics or neuroscience. Other students choose a Cognitive Science major because its interdisciplinary scope leaves the student well-positioned for careers in areas such as medicine or business. Finally, some students choose Cognitive Science in order to pursue opportunities in education, computer-based design, interface technology and so on.

CURRICULUM IN COGNITIVE SCIENCE

The curriculum is designed to give students a broad foundation in the field as well as deep exposure to particular topics. The three introductory courses (Cog Sci B07, B10, and B11) are designed to impart an interdisciplinary perspective on cognition. Most other courses in Cognitive Science are drawn from the participating departments. The attached Guide to the Cognitive Science Program shows the organization. We recommend that when possible the introductory courses be taken first. We also recommend that the introductory and methods courses (Rows 1 and 2 on the attached Guide) be taken by the end of the sophomore year or as early in the junior year as possible.

1. *Introductory courses.* These courses survey the basic phenomena and approaches that characterize Cognitive Science. They are shown in Row 1 of the attached Guide. B07 (Introduction to Cognitive Modeling) introduces students to artificial intelligence and its implications for human cognition. B10 (Introduction to Cognitive Science: Language, Vision, and Memory) and B11 (Introduction to Cognitive Science: Learning, Representation, and Reasoning) acquaint students with work in linguistics, neuropsychology, and cognitive psychology.

2. *Basic prerequisites.* These courses are designed to establish a solid grounding in the core methods of Cognitive Science. They are shown in Row 2 of the Guide. Psy B01 (Statistical Methods in Psychology), or other appropriate statistics course such as Statistics B02 or Statistics C02, provides basic understanding of statistics. Psy B05 (General Experimental Psychology) covers experimental design. The third requirement is a basic understanding of programming. Students with prior programming experience should take EECS A11 (Fundamentals of Computer Programming). EECS A10 (Introduction to Computer Programming in Pascal) is recommended only for students who have not programmed before. With this grounding, the student can now take more advanced courses and begin to shape his or her own program.

3. *Intermediate requirements.* These courses, shown in Row 3 of the Guide, expose the student to the breadth of Cognitive Science at a reasonably advanced level. Students choose three out of four of the basic disciplines: Psy C28 (Introduction to Cognitive Psychology), EECS C48 (Introduction to Artificial Intelligence), Psy A12 (Introduction to Neuroscience), and Linguistics B06 (Syntax and Semantics).

4. *Advanced Electives.* These are advanced offerings by the participating faculty. They are shown in Row 4 of the Guide. Students take six of these courses. At least three must be in one discipline (the main concentration) and at least two must be in other areas. Courses marked with an asterisk (*) on the Guide are required for a particular major discipline.

Some of the courses that are elements of the prospective major are relatively new and hence are currently offered as seminars. These are listed in Psychology under the

number D60 and in EECS under the number E10. These courses are appropriate for advanced undergraduates as well as graduate students.

5. *Proseminar.* We believe the research experience is central to developing a deep understanding of the nature of Cognitive Science. A junior proseminar is offered to involve the students in ongoing research by Northwestern faculty.

6. *Honors Credit.* In the senior year, qualified students can participate in a Senior Honors Seminar to engage in independent research under the guidance of program faculty and write a senior thesis.

Prerequisites

--EECS C48 (Introduction to Artificial Intelligence) has EECS A11 as its only prerequisite

--EECS C25-1 (Introduction to Artificial Intelligence Programming) has EECS A10, EECS A11 or programming experience as a prerequisite

--PSY C28 (Cognitive Psychology), PSY B01 (Statistical Methods in Psychology) and PSY B05 (General Experimental Psychology) have PSY A10, PSY A12, OR the combination of COG SCI B10 and B11 as prerequisites.

Further Developments

Inasmuch as this is a new field, we expect to be developing interactions with other departments and further course offerings as the program evolves.

ADVISING

Members of the Program Committee will act as advisors within their respective disciplines. In addition, Dr. Jeremiah Faries in Psychology will act as general advisor to the incoming prospective majors. He may be reached at 467-1271, 217 Swift Hall, or through the Department of Psychology office, 102 Swift Hall. He can also be reached by email: Faries@aristotle.ils.nwu.edu.

RELATED ACTIVITIES

Cognitive science majors will be invited to participate in activities such as occasional evening seminars and discussion groups. Also, there will be an email list for cognitive science majors to facilitate the exchange of information about issues and activities.

MEMBERS OF THE FACULTY

Department of Psychology

Jeremiah M. Faries (PhD Princeton, 1991) Memory organization and retrieval, analogy, language learning.

Peter W. Frey (PhD Wisconsin, 1968) Expert systems, machine learning, adversary games, expert skill, category learning.

Karen Fuson (PhD Chicago, 1972) Cognitive development, mathematics learning, cognition and instruction.

Dedre Gentner (PhD California San Diego, 1974) Cognition and language in learning and development; analogy, metaphor and similarity; mental models; acquisition of meaning.

James W. Hall (PhD USC, 1965) Human learning and memory, developmental and individual differences, reading disability.

Winfred F. Hill (PhD Stanford, 1954) Animal learning, motivation, and memory; learning theory and its applications, including personality.

Gail McKoon (PhD Colorado, 1975) Psycholinguistics, reading, human memory, knowledge representation.

Douglas Medin (PhD South Dakota, 1968) Concept formation and classification learning, models of similarity, integration of theories and experience in learning, cross-cultural comparison of conceptual systems.

Roger Ratcliff (PhD Auckland, 1974) Human memory and perception, mathematical models of psychological processes, psycholinguistics.

William Revelle (PhD Michigan, 1973) Personality theory and assessment. Interrelationships of personality, motivation and cognition. Biological basis of personality.

J. Peter Rosenfeld (PhD Iowa, 1971) Psychophysiology, psychophysiological applications in psychiatry, industry, event-related brain potentials, pain and opiate mechanisms.

Aryeh Routtenberg (PhD Michigan, 1965) Molecular basis for memory.

Nestor A. Schmajuk (PhD Mass, 1986) Neural networks, learning theories, brain theory.

Sandra Waxman (PhD Penn, 1985) Cognitive development, especially development of concepts; acquisition of meaning; word learning; young children's establishment of hierarchical systems of organization; early inductive reasoning.

Edward Wisniewski (PhD Brown, 1989) Cognitive psychology, cognitive science, conceptual combination, category learning.

Institute for Learning Sciences

Ray Bareiss (PhD Texas, 1988) Case-based reasoning, intelligent tutoring systems, multimedia computing, automated knowledge acquisition.

Richard Beckwith (PhD Columbia, 1988) Developmental and educational psychology.

Lawrence Birnbaum (PhD Yale, 1986) Natural language processing, learning, vision, interface design.

Allan Collins (PhD Michigan, 1970) Computers and education, human semantic processing, mental models, teaching and learning, assessment.

Paul Cooper (PhD Rochester, 1989) Vision, connectionism.

Richard G. Feifer (PhD UCLA, 1989) Learning, design of learning environments.

Kenneth Forbus (PhD MIT, 1984) Qualitative physics, cognitive simulation, analogical reasoning and learning, spatial reasoning, problem-solver design, intelligent tutoring systems.

Alex Kass (PhD Yale, 1990) Case-based reasoning; story understanding; machine learning; models of creativity; computer-based education.

Andrew Ortony (PhD London, 1973) Psychological and computational models of language comprehension, knowledge representation, similarity, metaphor and analogy, emotion and cognition.

Roy D. Pea (PhD Oxford, 1978) Integrating research, theory and the design of effective learning environments for science, programming, and multimedia computing.

Brian J. Reiser (PhD Yale, 1983) Cognitive science; problem solving; intelligent tutoring systems.

Christopher K. Riesbeck (PhD Stanford, 1974) Case-based reasoning, natural language processing, intelligent educational systems.

Roger Schank (PhD Texas Austin, 1969) Computer science application in the areas of cognitive science and education, natural language processing, artificial intelligence.

Department of Linguistics

Gilbert K. Krulee (PhD MIT, 1950) Psycholinguistics, computational linguistics, applied artificial intelligence.

Beth C. Levin (PhD MIT, 1983) Lexical semantics, syntax, morphology.

Janet Pierrehumbert (PhD MIT, 1980) Sound structure of language, intonation, experimental and computational methods in the study of language.

Beatrice Santorini (PhD Penn, 1989) Theoretical and historical syntax, language variation.

Gregory Ward (PhD Penn, 1985) Linguistic pragmatics, functions of syntax, psycholinguistics, intonation.

Department of Anthropology

Donald Stone Sade (PhD UC at Berkeley, 1966) Ethology, primate social networks, acoustical behavior of animals, computer applications in ethological research.

Department of Philosophy

Meredith Williams (PhD NYU, 1975) Theories of mental representation and mental content, theory of belief and other propositional attitudes, Wittgenstein's philosophical psychology.

As the program evolves, interactions with other faculty will be developed.

Guide to the Cognitive Science Program

Row 1 **Introductory Courses - All 3 required. (Cog Sci - 0452)**
 Cog Sci B07 Introduction to Cognitive Modeling
 Cog Sci B10 Introduction to Cognitive Science: Language, Vision & Memory
 Cog Sci B11 Introduction to Cognitive Science: Learning, Representation & Reasoning

Row 2 **Methods Courses - Three required.**
 Psy B01 Statistical Methods in Psychology**

AND

Psy B05 General Experimental Design

AND

EECS A11 Fundamentals of Computer Programming
 OR
 EECS A10 Introduction to Computer Programming in Pascal

Row 3 **Basic Content Courses in the Disciplines - Three of four required.**

	Artificial Intelligence EECS-0727	Cognitive Psychology Psy-0451	Cognitive Neuroscience (different depts as shown)	Linguistics Ling-0434
Disciplines				
Courses	*C48 Intro to Artificial Intelligence	*C28 Cognitive Psychology	*0451-A12 Intro to Neuroscience	B06 Syntax & Semantics

Row 4 **Advanced Electives - Six required (at least 3 from same column & 2 from outside that column).**

	Artificial Intelligence EECS-0727	Cognitive Psychology Psy-0451	Cognitive Neuroscience (different depts as shown)	Linguistics Ling-0434
Disciplines				
Courses	*C25-1 Intro to A.I. Programming		*0409-B10-3 Biology *0412-C08-3 Neuroanatomy	
	See attached list.	See attached list.	See attached list.	See attached list.

Row 5 **Junior or Senior Proseminar**

Row 6 **Senior Honors Thesis**

* required for major concentration in this column

**Some other Introductory statistics courses are also acceptable. Check with the Cognitive Science Undergrad Advisor.

Appendix 3
Page 10

Guide to Advanced Electives in the Cognitive Science Program (Courses Acceptable for Row 4)

ARTIFICIAL INTELLIGENCE

- 0727-C48 * Introduction to Artificial Intelligence
- 0727-C25-2 Artificial Intelligence Programming II
- 0727-C37 Natural Language Processing
- 0727-C44 Design of Computer-Based Problem Solvers
- 0727-D32 Advanced Topics in Computer Vision
- 0727-D37-1 Advanced Natural Language Processing I
- 0727-D37-2 Advanced Natural Language Processing II

COGNITIVE PSYCHOLOGY

- 0451-C11 Human Learning and Memory
- 0451-C14 Cognitive Development
- 0451-C22-1,2 Learning and Motivation
- 0451-C24 Perception
- 0451-C27-1,2 Formal Models of Cognition
- 0451-C33 Psychology of Thinking
- 0451-C34 Psychology of Language
- 0451-C35 Heuristic Decision Processes
- 0451-C60 Human Memory and Cognition
- 0451-D60 Analogy and Similarity

COGNITIVE NEUROSCIENCE

- 0409-B10-3 * Biology

- 0412-C08-3 * Neuroanatomy
- 0412-C02 Molecular Neurobiology
- 0412-C03 Cellular Neurobiology
- 0412-C04 Developmental Neurobiology
- 0412-C06 Central Nervous System Physiology
- 0412-C77 Sensory Neurobiology

- 0451-C12-2 Neurobiology and Behavior
- 0451-C21 Neuroscience and Behavior Laboratory

LINGUISTICS

- 0434-B07 Phonetics and Phonology
- 0434-C05 Lexical Semantics
- 0434-C06 Fundamentals of Syntax
- 0434-C09 Psycholinguistics
- 0434-C16 Phonetics
- 0434-C29 Pragmatics
- 0434-C46 Computers and Language Analysis
- 0434-C71 Morphology

* = Required for major concentration in this discipline.

COGNITIVE SCIENCE MAJOR

Typical path through the curriculum

1. In the freshman or sophomore year the student takes the Row 1 introductory courses:

- Psychology B07
- Psychology/Linguistics B10
- Psychology C14

Followed by or partially concurrent with the Methods courses:

- EECS A11
- Psychology B01¹
- Psychology B05

2. At this point, normally sometime in the late sophomore or junior year, students begin to make more focused selections from the disciplines. A student interested in psycholinguistics from a computational point of view might take:

- EECS C48
- Psychology C28
- Linguistics B06

The student would continue in the junior and senior years, with six more courses. The hypothetical student we have been discussing might choose upper-division courses from Artificial Intelligence, Psychology and Linguistics, as follows:

- Linguistics C05 Lexical Semantics
- Linguistics C06 Fundamental of Syntax
- Linguistics C09 Psycholinguistics
- EECS C37 Natural Language Processing
- Psychology C34 Psychology of Language

Other courses that the student might instead (or in addition) take are:

- Linguistics C29 Pragmatics
- EECS D37-1 Advanced Natural Language Processing I

¹ Another equivalent statistics course may be used if so determined by the CAS Curricular Review Committee. Discussions are underway by the relevant faculty.

ILLINOIS STATE
UNIVERSITY



133E Stevenson Hall
Normal, IL 61790-5150
Telephone: (309) 438-8338
Facsimile: (309) 438-5113

515 Applied Computer Science Department

TO: Lorie Heggie
Department of Foreign Languages

FROM: Lawrence C. Eggan, Chair
Applied Computer Science Department

DATE: April 15, 1993

RE: Proposed minor in Cognitive Science

This memo is in support of the proposed minor in Cognitive Science. The courses identified in Applied Computer Science are generally available to students not majoring in Applied Computer Science. Although a major block is enforced early in the preregistration period, the major block is lifted before most courses are filled. The few students who might be interested in ACS courses as a result of this minor could be accommodated without additional resources.

cc: Carol Chrisman

Illinois State University

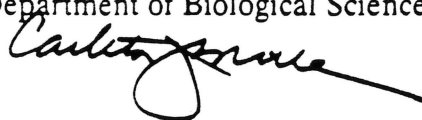
Department of Biological Sciences

April 12, 1993

TO: Lori Heggie, Department of Foreign Languages

FM: Carleton Phillips, Chairman, Department of Biological Sciences

RE: BSC 390. Evolution



I am pleased that you have included BSC 390, Evolution, in your proposal for a new Minor in Cognitive Science. This course is required for the CORE curriculum in our new Conservation Biology Sequence. Additionally, because it is a basic, unifying, course in the biological sciences, one may assume that it will be offered on a regular basis. I do not foresee any problems with serving a small number of additional students from your proposed program.

Enclosed with my memorandum you will find current curricula vitae of Professor Charles Thompson and Assistant Professor Angelo Capparella. These two faculty members will continue to have primary responsibility for this course.

Encl.

CJP/nd

Illinois State University

4480 Department of Communication

TO: Lorie Heggie
Department of Foreign Languages

FROM: Catherine Konsky, Chair *Clark*

DATE: April 14, 1993

RE: Proposal for a Minor in Cognitive Science

I am writing in support of this initiative. The Communication courses named in the proposal are offered on a regular basis, and our department is willing to accept the one or two extra students in these courses which might result from this proposal.

Enclosed is the vita of Dr. Sandra Metts, the faculty member from our department that you have listed in Appendix A. I have discarded the older vita and replaced it with an updated one.

I will watch for the announcement of this proposal for the minor in Cognitive Science in upcoming College Curriculum Committee materials.

cc: Dr. Sandra Metts

Illinois State University

College of Arts and Sciences
Department of English 4240

TO: Lorie Heggie
Department of Foreign Languages

FROM: Charles B. Harris, ^{Charles B. Harris} Chairperson
Department of English

DATE: April 9, 1993

I enthusiastically support the proposal for a minor in Cognitive Science. The English courses named in the proposal are offered on a regular basis. The extra enrollment in those courses that is likely to result from the implementation of this minor will be easily absorbed into the courses.

CBH:ce

Illinois State University

College of Arts and Sciences
Department of Foreign Languages 4300

TO: Professor Lorie Heggie

FROM: Alice Berry, Chair of the Department of Foreign Languages



RE: Cognitive Science Minor

DATE: April 13, 1993

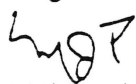
I am writing to express our department's support of the minor in Cognitive Science, and to assure you that the courses from Foreign Languages as listed in Group E (Linguistics): FOR 309, Phonetics; FOR 310, Syntax/Advanced Grammar; and FOR 290.16, Advanced Russian Syntax; are offered on a regular rotation in our department. We would willingly accept students working for a minor in Cognitive Science in these courses.

Please let me know if I can be of further assistance to you and your colleagues in this noteworthy endeavor.

Illinois State University

College of Arts and Sciences
Mathematics Department

TO: Lorie Heggie,
Department of Foreign Languages

FROM: Mike Plantholt 
Acting Chair, Department of Mathematics

RE: Proposal for a Minor in Cognitive Science

DATE: April 14, 1993

I have read the proposal for the new Minor in Cognitive Science. In my discussion with you, we agreed that MAT 260 is a more appropriate course to list in your Group A than the previously listed MAT 361, which is not offered regularly. With that change, I can say that each of the following Group A courses is offered on a regular basis, and that the Mathematics Department will be happy to accept the resulting one or two extra students in these courses.

Group A Mathematics Courses for Cognitive Science Minor:

MAT 145	Calculus I
MAT 146	Calculus II
MAT 175	Linear Algebra
MAT 236	Introduction to Abstract Algebra
MAT 260	Discrete Mathematics

Illinois State University

4540 Department of Philosophy

April 15, 1993

To Whom It May Concern:

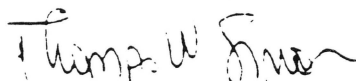
The faculty in the Department of Philosophy have worked very hard at the Cognitive Science project and are very excited by the proposal.

The courses listed in the proposal are offered on a regular basis. The only one that has not been offered with the frequency of the others is PHI 253 Philosophy and the Behavioral Sciences. However, we have just hired a new faculty member whose specialty is philosophy of science.

We would be more than willing to accept one or two extra students in these courses.

We are very impressed with the proposal and look forward to playing an integral role in the program

Respectfully,




Thomas W. Simon

Professor and Chairperson

Illinois State University

Department of Psychology 4620

To: Lorie Heggie
Department of Foreign Languages

From: Larry Alferink, Chair 
Department of Psychology

Re: Cognitive Science Minor Proposal

Date: April 15, 1993

I have reviewed the proposal for the Cognitive Science Minor. Psy 231, PSY 240, 331.04, 331.07, 360, 361, 363 and PSY 366 are all taught on a regular basis and I have no problems with one or two students from this minor enrolling in these courses when they are offered. I support your initiative in proposing this minor and wish you success.

Illinois State University

College of Arts and Sciences

4660 Department of Sociology & Anthropology

TO: Dr. Lorie Heggie
Department of Foreign Languages

FROM: Robert H. Walsh, Chairperson *RHW*
Department of Sociology-Anthropology

DATE: April 16, 1993

RE: Proposal for a Minor in Cognitive Science

I have read the proposal for a minor in cognitive science, and am excited by this move to make Illinois State University a leader in this new interdisciplinary field. I have conferred with the coordinator of the Anthropology program, and we agree that the courses involved in the minor will be offered on a regular basis and that we will be able to accept one or two extra students who might want to take the course because of their minor in cognitive science. We are pleased to support this proposal.

MEMO



ILLINOIS STATE UNIVERSITY

Department of
4720 Speech Pathology and Audiology
Fairchild Hall 204 438-8643

TO: Lorie Heggie, Department of Foreign Languages
FROM: Martin Young *Martin Young*
SUBJECT: Minor in Cognitive Science
DATE: April 13, 1993

The Department of Speech Pathology and Audiology strongly supports the proposal for a minor in Cognitive Science. PAS 211, 301, 310 and 320, named in the proposal, are courses regularly taught for which a few extra students each semester would not be a burden.

MEMO

ISU

ILLINOIS STATE UNIVERSITY

College of Applied Science and Technology
Office of the Dean

TO: Lorie Heggie ^{BC}
Department of Foreign Languages

FROM: Dean Elizabeth Chapman
College of Applied Science and Technology

DATE: April 16, 1993

RE: Proposed Minor in Cognitive Science

My apologies for misplacing the document which I received April 9 regarding a proposed minor in Cognitive Science. Since this was my first exposure to the proposal, it was important for me to review the concept and discuss it with the faculty involved (Dr. Vila) and the ACS department chairperson, Dr. Larry Eggan. While this abbreviated time frame does not allow for a thorough analysis of the overall viability of such a proposal, I believe it is an interesting subject area and one for which we can provide the necessary ACS course work. Therefore I have no objections to it at this time.

EAC/aaa

cc: Chairperson Eggan
Dr. Joaquin Vila

Member of Latin American Studies Team (Interdisciplinary), 1991-present.

Language Fair Assistant, 1985 & 1986.
Brigham Young University and Utah Public Schools.

PROFESSIONAL MEMBERSHIPS

Modern Language Association

American Association of Teachers of Spanish and Portuguese

Linguistic Society of America

REFERENCES

Professor Milton Azevedo, Department of Spanish & Portuguese,
University of California-Berkeley.
e-mail: ctlntt@violet.berkeley.edu

Professor Jerry Craddock, Department of Spanish & Portuguese,
University of California-Berkeley.
e-mail: jerryc@athena.berkeley.edu

Professor John Ohala, Department of Linguistics,
University of Alberta in Edmonton.
e-mail: userohal@altamts.bitnet

Professor Charles Faulhaber, Department of Spanish & Portuguese,
University of California-Berkeley.
e-mail: cbf@faulhaber.berkeley.edu

Dr. Herminia Kerr, Department of Spanish & Portuguese,
University of California-Berkeley.