

## PLAN OF STUDY

The plan of study, worked out by the student and the major Professor, must be approved by the graduate committees of the home department and the CLS program.

## FACILITIES

Laboratory and computational facilities needed for the CLS program are provided by the home departments and the division of Information Technology at Purdue (ITaP).

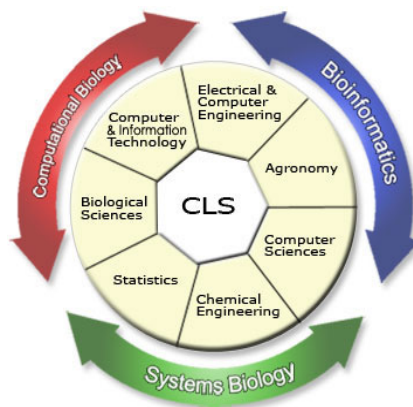
## TUITION & FINANCIAL AID

A Student's home department determines the applicable tuition and fees. Financial assistance is also determined by the home department of each student. Starting fall 2007 graduate school will offer a few interdisciplinary fellowships each year to be administered by CLS graduate committee.

## ADMISSION

Enrolment in the CLS program is by filling in the CLS registration form available at CLS web site. A Purdue student in one of the home departments can apply to the CLS program by completing the CLS registration form available at the CLS web site. CLS registration forms approved by the CLS faculty representative of the home department must be sent to CLS program office.

The non-Purdue student may include the CLS registration form available on CLS web site in his/her graduate application to the home department. Approved CLS registration form must be sent to CLS program office.



## CLS PROGRAM CONTACT

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<http://www.gradschool.purdue.edu/cls/>

*The CS&E and CLS programs are now known as Integrative Computational Studies (ICS) in the Office of Interdisciplinary Graduate Programs (OIGP) at Graduate School. ICS has joint research activities with Computing Research Institute, in Cyber Center.*

**PURDUE**  
UNIVERSITY

# COMPUTATIONAL LIFE SCIENCES (CLS)

<http://www.gradschool.purdue.edu/cls>

## AN INTERDISCIPLINARY GRADUATE PROGRAM

### AREA of SPECIALIZATION

At  
MS & PhD levels

WEST LAFAYETTE  
INDIANA 47907, USA

*Last update: August 2007*

## PROGRAM DESCRIPTION

The Computational Life Sciences program is an interdisciplinary graduate area of specialization offered at the MS and PhD levels by the participating departments, also known as the “home departments.” The program provides students with an opportunity to study a specific science or engineering discipline simultaneously acquiring skills in Computational Life Sciences. The aim of the program is to educate students so they are proficient in computational tools and techniques in the life sciences. These skills prepare them for discovery and implementation of algorithms that facilitate the understanding of biological processes.

Graduates with MS CLS specialization should be well prepared to join and make significant contributions to interdisciplinary research teams.

Graduates with Ph.D. CLS specialization are expected to become leaders in research and development at the forefront of their fields, applying advanced computational techniques and theory to solve key problems in computational life sciences.

The student’s participation in the program is indicated on his/her transcript as a specialization in “Computational Life Sciences.”

## HOME DEPARTMENTS

Currently the following seven home departments from four colleges offer the Computational Life Science specialization:

**College of Agriculture:** Agronomy.

**College of Science:** Biological Sciences, Computer Science, Statistics.

**College of Engineering:** Chemical Engineering, Electrical and Computer Engineering.

**College of Technology:** Computer and Information Technology.

Departments interested in offering this specialization should contact the CLS program office.

## CLS GRADUATE COMMITTEE

CLS graduate committee, consisting of director, coordinator, and faculty representatives from home

departments, is the governing body of the CLS program.

## CLS COURSES

The CLS program is defined through the **CLS bridge courses**, **CLS core courses**, and **CLS relevant courses** specified by CLS graduate committee.

**Bridge courses:** Two graduate level CLS bridge courses (3 credits each) are specifically designed to provide key concepts from life sciences, engineering, statistics and computational methods. The purpose of these bridge courses is to assist students in achieving a common preparation level for entry into higher level courses in the CLS program.

**B2C course:** Aimed at students with life science background. It imparts basic computational skills relevant to CLS.

**C2B course:** Aimed at students with computational background. It imparts knowledge of selected material in life sciences necessary for graduate level work in CLS.

**Core and relevant courses:** CLS program maintains a list of CLS core and CLS relevant courses offered by the participating departments. These courses have substantial bioinformatics or computational biology relevance and are accessible to interested students from other departments.

## CLS CURRICULUM

The expected course requirements for students in CLS program are roughly the same as for masters or doctoral degrees in their home departments at Purdue, with approximately one third of the requirements from Computational Life Science courses as identified by the CLS program. The one third requirements for CLS specialization will be taken from CLS Bridge, Core, and Relevant courses as designated by the CLS graduate committee. The CLS program guide has lists and details about these courses.

**MS CLS requirements:** Any MS student with a CLS home department may enroll. MS Plan of Study must include **minimum 9 credit hours** of:

**Bridge course: 3 credits;** only one of the two bridge courses can be counted. May be replaced by a CLS-core course for qualified students,

**Core course: 3 credits** obtained from a CLS-core course as specified by the home department,

**Relevant course: 3 credits** obtained by taking one course from the list of CLS relevant courses.

The POS should also include **CLS seminar (GRAD 689D): 0 credit;** (must register during at least two semesters and attend at least three seminars every semester).

**PhD CLS requirements:** For PhD students enrolled in CLS program the plan of study must include **minimum 12 credit hours** of:

**Bridge course: 3 credits;** same as for MS CLS.

**Core course: 3 credits** same as for MS CLS.

**Relevant course: 6 credits** obtained by taking two courses from the list of CLS relevant courses.

The POS should also include **CLS seminar (GRAD 689D): 0 credit;** (must register during at least four semesters and attend at least three seminars every semester). Additionally a Ph.D. student seeking CLS specialization must a) deliver at least one talk in the CLS seminar series, and b) must have her/his major professor, who must also be a CLS faculty, on her/his Ph.D. advisory committee.

## CLS SEMINAR SERIES

CLS program fosters interaction between faculty and students from various departments through colloquia and interdisciplinary computational research.

A weekly **Seminar Series** is organized every semester. For CLS program. This seminar series is given a course number GRAD 689D and has become part of CLS curriculum. These seminars are jointly held with the seminars of Computational Science & Engineering program. They include seminars of Computing Research Institute.