

Date: Thu, 7 Apr 1994 13:33:55 -0700 (PDT)
From: Burton Guttman <guttmanb@elwha.evergreen.edu>
To: Judy Huntley <huntleyj@elwha.evergreen.edu>
Subject: B.S. degree

Hi, Judy.

At today's meeting of the STH faculty, the question of the B.S. degree arose again. Rob Cole reported to us that the Environmental Studies faculty, on initiative from Jim Stroh, has gone on record as wanting to either eliminate the degree or to put real teeth into it.

The few STH faculty members who were at the meeting have varied opinions about the B.S. degree, and we found ourselves lacking information about a critical point: the awarding of upper-division natural science credit by members of the faculty who are not mathematicians or scientists. Perhaps you could answer some questions for us:

1. How common is it for members of the faculty who are not mathematicians or scientists to award upper-division natural science credit? You might answer this question in various ways, such as "We get about ten evaluations a year in this category," or "Approximately xx quarter hours per year are awarded in this way."

2. Does your office exert any control over this matter? Do you ever, for instance, return an evaluation to a person in humanities and question his/her awarding of science credit?

3. What kinds of work is such credit awarded for? For instance, is it done primarily for internships? for individual contracts? as an equivalency in some coordinated studies or group contract?

4. This is a bit touchy, and you might not want to answer it: Are there any members of the faculty whom you are concerned about because they are not mathematicians or scientists and yet award upper-division credit rather egregiously?

5. Have you ever had discussions with the Deans and/or Provost about this issue?

We would appreciate any additional information you can give us that will help us discuss this issue. Thanks very much, Judy.

Burt Guttman

Date: Tue, 12 Apr 1994 08:29:33 -0700 (PDT)
From: Burton Guttman <guttmanb@elwha.evergreen.edu>
To: Masao Sugiyama <sugiyama@elwha.evergreen.edu>
Cc: Jim Stroh <strohj@elwha.evergreen.edu>
Subject: Memo of April 7th (fwd)

Hi, guys. Here's Judy's reply to my message.

Burt Guttman

----- Forwarded message -----
Date: Mon, 11 Apr 1994 15:30:24 -0700 (PDT)
From: Judy Huntley <huntleyj@elwha.evergreen.edu>
To: guttmanb@elwha.evergreen.edu
Subject: Memo of April 7th

Hi Burt! I will try to answer your questions in the same order as asked.

1) The only time we have received science credits from a non science faculty has been when the student is working with someone else who has a science/math background (subcontractor, course faculty, etc)

2) We have not had a time when anything was turned back to a non-science faculty. Were such a case to happen I would check with the Academic Deans first to see if the credit was allowable.

3) We find that credits are seen in the Internship/Contract learning where there may be a sub-contractor. Occasionally we have seen it through the Native American Program, there again it is usually with a science faculty - not necessarily in the program - who works with the student and then determines the equivalencies.

4) My concern has been within the science/math area where the faculty are not always supportive of the B.S. degree and will just give the credit because the student needs it to graduate with a B.S. I'm also concerned about the lack of consistency in awarding upper division credit; students aren't always told the breakout early enough to make an educated decision on the programs they need to get this particular degree; programs change from year to year making it difficult for students to plan for the degree (i.e. M to O is a program that we have seen change the amount of upper division over the year and when students talk with each other they find it is not the same)

5) I have talked with the Deans, in the past, about my concerns and the questions that we get when students are going through advising and registration. I've spoken about the lack of genuine support for the degree.

I was looking over the graduation statistics and would be glad to share them with you...let me know if you would like a copy of my stats... the applications for B.S. and B.A.S. are up. This year we are reviewing 139 applications. We get questions from students before they enter Evergreen about pathways for earning the B.S. degree.

Please let me know if there is more that I can share or if there are statistics I can pull together. I hope this has helped!

Judy

Date: Mon, 12 Dec 1994 11:55:35 -0800 (PST)
From: John Cushing <cushja@elwha.evergreen.edu>
To: Burton Guttman <guttmanb@elwha.evergreen.edu>
Cc: Betty Kutter <kutterb@elwha.evergreen.edu>, marvinj@elwha.evergreen.edu, wongl@elwha.evergreen.edu, sth@elwha.evergreen.edu
Subject: Re: BS degree

It seems to me that whether something is upper division or not will depend on how it is taught, by whom, and under what circumstances. There probably cannot be a "rule" here; just good judgement by our colleagues.

Re your comments about math, I'd suggest that discrete math (as taught by AI in C&C or [at least sometimes] in Data to Information is at least as important as calculus to students in computer science...

On Fri, 9 Dec 1994, Burton Guttman wrote:

> On Thu, 8 Dec 1994, Betty Kutter wrote:

>

> > I think the BS degree is still appropriate here. To me, the most
> > important aspect of "upper division" is relatively independent,
critical

> > analysis of the actual journals/literature of a field -- showing
> > understanding of the fundamentals, the ability to clearly distinguish
> > what one understands from what one doesn't, the ability to formulate
> > fairly sophisticated, research-related questions. It is more a
matter

> > of how the student relates to the material than only of what the
> > professor tries to present.

>

> While I agree with Betty that we should retain the B.S. degree (but
make

> it a meaningful degree, with some standards), I think her standards for
> upper-division work are too ambitious and restrictive. When I teach
> things like genetics and cell biology in M20, I'm sure it's at a level
at

> least equal to what juniors and seniors at other good colleges would be
> doing, with lots of emphasis on demonstrating real understanding and
> solving problems. But the students are certainly not analyzing the
> actual literature in the field and most of them are nowhere near
> formulating sophisticated, research-oriented questions. (Very few of
> them are likely to get into any research in these subjects, but all of
> them need to understand the subjects for their other work in biology,
> medicine, etc.)

>

> > It is good to discuss whether there is any one particular piece of
> > knowledge that should be common to everyone with a BS, whatever their
> > specialty. Tho having my BS in math, I would say that an
understanding

> > of the fundamentals of chemistry, atomic structure, etc. is at least
as

> > important as any math course to most of the sciences.

>

> I would support some kind of math standard, something beyond college
> algebra, but not necessarily calculus. Statistics at a rather
> sophisticated level might be best for many students. Someone who
claims

> a B.S. degree ought to have his/her thinking informed by a certain
> mathematical sophistication; for instance, something important happens
to

From: Betty Kutter <kutterb@elwha.evergreen.edu>
To: beugm@elwha.evergreen.edu, guttmanb@elwha.evergreen.edu
Cc: sth@elwha.evergreen.edu, wongl@elwha.evergreen.edu
Subject: Re: BS degree

I agree with the at least 10 credits of chemistry for most, at least, but I am not certain it should be required for a math or computer science major, and there are other things I see as at least as important as physics for many - so maybe Mike's wording, with appropriate clarification, might be better than Burt's?
Clearly, putting on requirements that are appropriate for all BSs takes some careful thought...
As I remember, substantial additional hours of science credit (in addition to the 45 upper division) are now required? That should help get some important background --
Betty

Date: Tue, 13 Dec 1994 16:18:06 -0800 (PST)
From: John Cushing <cushja@elwha.evergreen.edu>
To: Burton Guttman <guttmanb@elwha.evergreen.edu>
Cc: Michael Beug <beugm@elwha.evergreen.edu>, wongl@elwha.evergreen.edu, sth@elwha.evergreen.edu
Subject: Re: BS degree

Come on folks! repeat after me: computer science is science too...

Both Michael and Burt's specifications for the minimal expectations include physics, chemistry, etc., but omit the option of computer science. If we are going to start listing a set of core content requirements for the BS (and I'm not sure we should), at least let's not be too narrow about what counts. I think we can all agree on some kind of calculus OR discrete math as desirable. Probably also a rigorous statistics course. But beyond that, I think the requirement should be something like "at least X quarters chosen from the following Y disciplines." And I'm not SURE that we should get that specific.

Date: Tue, 13 Dec 1994 16:23:43 -0800 (PST)
From: John Cushing <cushja@elwha.evergreen.edu>
To: Betty Kutter <kutterb@elwha.evergreen.edu>
Cc: beugm@elwha.evergreen.edu, guttmanb@elwha.evergreen.edu, sth@elwha.evergreen.edu, wongl@elwha.evergreen.edu
Subject: Re: BS degree

The BS requirements are for at least 72 credits in math and science, of

which at least 48 must be upper division. I suspect that an analysis of our students would suggest that many of them are "supermajors" (as was shown to be the case in a review of Evergreen arts students). The 24+ lower division science credits are usually not a problem for our students, since 60% of them transfer in, and many of these have met science distribution requirements elsewhere. But Steve Hunter could help us get precise about what our students are actually doing...

On Tue, 13 Dec 1994, Betty Kutter wrote:

> I agree with the at least 10 credits of chemistry for most, at least, but I
> am not certain it should be required for a math or computer science major,
> and there are other things I see as at least as important as physics for many -
> so maybe Mike's wording, with appropriate clarification, might be better than
> Burt's?
> Clearly, putting on requirements that are appropriate for all BSs takes some
> careful thought...
> As I remember, substantial additional hours of science credit (in addition to
> the 45 upper division) are now required? That should help get some important background.

Date: Sat, 17 Dec 1994 09:36:56 -0800 (PST)
From: Rob Knapp <knappr@elwha.evergreen.edu>
To: Michael Beug <beugm@elwha.evergreen.edu>
Cc: John Cushing <cushja@elwha.evergreen.edu>,
Burton Guttman <guttmanb@elwha.evergreen.edu>,
Betty Kutter <kutterb@elwha.evergreen.edu>,
marvinj@elwha.evergreen.edu,
wongl@elwha.evergreen.edu, sth@elwha.evergreen.edu
Subject: Re: BS degree

Folks -- I have just finished a round of evaluations with FONS students where it was apparent that for quite a number, especially the less thoughtful, completing a BS was a way of structuring their education here that was substituting for thinking hard about what they wanted and what it takes to get it. I'm scared that making more detailed requirements for the degree will reinforce that substitution -- I don't have to figure out what I need, the college has already figured it out for me. I would rather we used our wisdom about what students do need to structure our offerings so that they get what they need when they sign up for what they want.

Rob Knapp

On Tue, 13 Dec 1994, Michael Beug wrote:

> I am reluctantly coming around to agreeing with the need to keep the
> B.S.
> degree. It makes students think more about their science education and
> results in them taking some important courses they would otherwise
> avoid. I do favor strengthening the requirements for the B.S. through
> some
> broad area prerequisites (or corequisites) of lower division material.
>
> In thinking about the diverse needs of computer, math, physical
> science,
> biological science and environmental studies students, it is very hard
> to
> come up with any specific requirements. However, could we have some
> broad classes of requirements coupled with some strong recommendations?
>
> To make certain that all students have competency in mathematics, how
> about a requirement that all students must complete one year in any
> combination of the following: discrete math, calculus, statistics and
> university physics.
>
> To assure general science competency all students should have one year
> in
> any combination of the following: general biology, general chemistry,
> organic chemistry, general physics, (some parallel in computer
> science?).
>
> The recommendation for all students should be one year of calculus or
> discrete mathematics; a course in statistics; one year of general
> chemistry; one year of physics. For biology and environmental studies
> science majors, include one year of general biology and one term of
> organic
> chemistry.

Date: Sat, 17 Dec 1994 09:44:55 -0800 (PST)
From: Rob Knapp <knappr@elwha.evergreen.edu>
To: Dharshi Bopegedera <bopegedd@elwha.evergreen.edu>
Cc: sth@elwha.evergreen.edu
Subject: Re: BS degree

Dharshi -- Well, yes and no. I don't think students are mainly taking
AMR because they are forced to. I think they sign up because they heard
it was a good program -- full of substance, taught in a lively,
authoritative, supportive way.

I think our responsibility is to get students to understand what they
should have as part of a good undergraduate training, and to make it
available, but I don't think it should be our responsibility to ensure
that they have it. I think they will learn better and make better future
use of what they learn if they have needed (and been able) to decide what
main pieces to assemble into their degree.

Rob

Date: Mon, 19 Dec 94 07:10:09 -0800
From: Betty Kutter <kutterb@elwha.evergreen.edu>
To: guttmanb@elwha.evergreen.edu
Cc: STH@elwha.evergreen.edu
Subject: Re: BS Degree

I share the concerns about getting ourselves into inappropriate places too much like "brand X" by trying to put in a specific set of requirements that all students have to meet -- and worse yet, having our curriculum too much driven by our having to help them meet them! I'd rather have, I think, lists of strong recommendations for people with various kinds of future goals and a requirement for some sort of "senior thesis" -- with in effect whichever science faculty signs off on that saying that this person has the requisite intellectual tools to not inappropriately be awarded a "BS" degree -- however they have managed to get them! (We then need to have some trust in our science faculty colleagues' judgement.) This should, by the way, give all of us both the excuse and the mandate to be involved with a few students doing truly advanced work for their theses, which can be quite exciting! By the way, how real/extensive a problem are we talking about? Are many students getting BSs without basic math skills, or at least one strong course in basic science concepts? Didn't sound like that was too likely, from the registrar data you were citing on who was giving the upper-division science credit...
Best wishes, Betty
□