ITEM 161-2007+R1113

Curriculum Change to Electrical & Computer Engineering Degrees (BS programs)

THAT
The Board of Regents of Higher Education authorizes Montana State University to decrease the total number of credits required for a Bachelor of Science in Electrical Engineering degree and for the Bachelor of Science in Computer Engineering Degree.

EXPLANATION
The MSU Department of Electrical and Computer Engineering offers the BS in Electrical Engineering degree program (BSEE) and the BS in Computer Engineering degree program (BSCpE). After a review process involving our faculty, our External Advisory Council, and the College of Engineering Curriculum and Accreditation Committee, we propose to adjust the overall credits required for the BSEE degree to be 125, and the BSCpE program to be 126, instead of the 128 credits previously required. These changes help streamline our curricula, making it more feasible for students to complete the degree requirements in four years. Both degree programs still exceed the minimum 120 credits required by our accreditation agency (ABET).

ATTACHMENTS
Level I Form – Electrical Engineering
Level I Form – Computer Engineering
Montana Board of Regents
LEVEL I REQUEST FORM

Item Number: 161-2007+R1113  Meeting Date: November 21-22, 2013
Institution: Montana State University  CIP Code: 14.1001
Program Title: Bachelor of Science in Electrical Engineering

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner’s designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the Board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner for Academic and Student Affairs, by no later than five weeks prior to the final posting date for the next scheduled meeting of the Board. The Deputy Commissioner will review the proposal and respond to the proposing campus with any questions or concerns within one week, allowing the proposing campus one week to respond before the Item is posted for the BOR scheduled meeting.

A. Level I (place an X for all that apply):

Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges. For Level I actions on degree programs or certificates, the process must begin when the proposing campus posts its intent on the MUS academic planning web site.

1. Re-titling existing majors, minors, options and certificates

2. Adding new minors or certificates where there is a major (Submit with completed Curriculum Proposals Form)

3. Adding new minors or certificates where there is an option in a major (Submit with completed Curriculum Proposals Form)

4. Departmental mergers and name changes

X 5. Program revisions: credit requirement change

6. Distance or online delivery of previously authorized degree or certificate programs

7. Placement of program into moratorium (No Program Termination Checklist at this time - document steps taken to notify students, faculty, and other constituents and include this information on checklist at time of termination if not reinstated)

8. Filing Notice of Intent to Terminate/Withdraw existing majors, minors, options, and certificates (No Program Termination Checklist at this time)

9. Terminate/withdraw existing majors, minors, options, and certificates (Submit with completed Program Termination Checklist)
Montana Board of Regents  

LEVEL I REQUEST FORM

B. Level I with Level II documentation:

With Level II documentation circulated to all campus chief academic officers in advance, the Deputy Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Deputy Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Deputy Commissioner or designee will move the item to the Level II review process.

1. Options within an existing major or degree (Submit with completed Curriculum Proposals Form);

2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools with the exception of the Colleges of Technology where changes require Board action (Submit with completed Curriculum Proposals Form);

3. Consolidating existing programs and/or degrees (Submit with completed Curriculum Proposals Form);

C. Temporary Certificate or A.A.S. degree programs

Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Level I Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

D. Campus Certificates

Although certificate programs of 29 credits or fewer may be implemented by the individual campuses without approval by the board of regents, those certificates do need to be reported to the office of the commissioner of higher education and listed on the Montana University System’s official degree and program inventory. These Level I proposals will be listed as information items at the next regular meeting of the board.

Specify Request:

The MSU Department of Electrical and Computer Engineering offers the BS in Electrical Engineering degree program (BSEE). After a review process involving our faculty, our External Advisory Board, and the College of Engineering Curriculum and Accreditation Committee, we propose to adjust the overall credits required for the degree to be 125, instead of the 128 credits previously required.

Justification:
Montana Board of Regents
LEVEL I REQUEST FORM

Due to the rapid pace of change in the electrical engineering field, it is necessary from time to time to adjust the content of courses and the specific degree requirements necessary to ensure that our graduates continue to be competitive and successful in this profession. These considerations are vetted with our faculty, with our External Advisory Council, and with our peers from other universities around the country.

We are also mindful of the ongoing need to streamline curricular requirements so that an increasingly larger proportion of our students can complete their BS degree in four years. Moreover, we have examined the bottlenecks and hurdles in the prior curriculum, and redistributed the credit load more evenly across the 8 semester program.

These considerations have allowed us to adjust the BSEE curricular requirements to include one fewer 3-credit class, which has been accomplished by making engineering statics (EGEN 201) an elective rather than a requirement.

The change from 128 credits to 125 credits still exceeds the minimum accreditation standard of 120 credits, and also still complies with the other university rules regarding Core courses and upper division credits. Thus, the change is expected to have a positive impact on our students' success and rate of completion.
Montana Board of Regents  
**LEVEL I REQUEST FORM**

<table>
<thead>
<tr>
<th>Item Number:</th>
<th>161-2007+R1113</th>
<th>Meeting Date:</th>
<th>November 21-22, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution:</td>
<td>Montana State University</td>
<td>CIP Code:</td>
<td>14.0901</td>
</tr>
<tr>
<td>Program Title:</td>
<td>Bachelor of Science in Computer Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the Board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner for Academic and Student Affairs, by no later than five weeks prior to the final posting date for the next scheduled meeting of the Board. The Deputy Commissioner will review the proposal and respond to the proposing campus with any questions or concerns within one week, allowing the proposing campus one week to respond before the item is posted for the BOR scheduled meeting.

**A. Level I (place an X for all that apply):**

1. Re-titling existing majors, minors, options and certificates
   -
2. Adding new minors or certificates where there is a major (Submit with completed Curriculum Proposals Form)
   -
3. Adding new minors or certificates where there is an option in a major (Submit with completed Curriculum Proposals Form)
   -
4. Departmental mergers and name changes
   -
5. Program revisions: credit requirement change
   -
6. Distance or online delivery of previously authorized degree or certificate programs
   -
7. Placement of program into moratorium (No Program Termination Checklist at this time – document steps taken to notify students, faculty, and other constituents and include this information on checklist at time of termination if not reinstated)
   -
8. Filing Notice of Intent to Terminate/Withdraw existing majors, minors, options, and certificates (No Program Termination Checklist at this time)
   -
9. Terminate/withdraw existing majors, minors, options, and certificates (Submit with completed Program Termination Checklist)
   -
Montana Board of Regents
LEVEL I REQUEST FORM

B. Level I with Level II documentation:

With Level II documentation circulated to all campus chief academic officers in advance, the Deputy Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Deputy Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Deputy Commissioner or designee will move the item to the Level II review process.

1. Options within an existing major or degree (Submit with completed Curriculum Proposals Form);

2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools with the exception of the Colleges of Technology where changes require Board action (Submit with completed Curriculum Proposals Form);

3. Consolidating existing programs and/or degrees (Submit with completed Curriculum Proposals Form)

C. Temporary Certificate or A.A.S. degree programs

Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and /or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Level I Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

D. Campus Certificates

Although certificate programs of 29 credits or fewer may be implemented by the individual campuses without approval by the board of regents, those certificates do need to be reported to the office of the commissioner of higher education and listed on the Montana University System's official degree and program inventory. These Level I proposals will be listed as information items at the next regular meeting of the board.

Specify Request:

The MSU Department of Electrical and Computer Engineering offers the BS in Computer Engineering degree program (BSCE). After a review process involving our faculty, our External Advisory Board, and the College of Engineering Curriculum and Accreditation Committee, we propose to adjust the overall credits required for the degree to be 126, instead of the 128 credits previously required.

Justification:
Montana Board of Regents
LEVEL I REQUEST FORM

Due to the rapid pace of change in the computer engineering field, it is necessary from time to time to adjust the content of courses and the specific degree requirements necessary to ensure that our graduates continue to be competitive and successful in this profession. These considerations are vetted with our faculty, with our External Advisory Council, and with our peers from other universities around the country.

We are also mindful of the ongoing need to streamline curricular requirements so that an increasingly larger proportion of our students can complete their BS degree in four years. Moreover, we have examined the bottlenecks and hurdles in the prior curriculum, and redistributed the credit load more evenly across the 8 semester program.

These considerations have allowed us to adjust the BSCpE curricular requirements to include a combination of required and elective courses that comprise specific 3 credit and 4 credit slots, with no extra "orphan" credits. The result of this adjustment totals 126 credits.

The change from 128 credits to 126 credits still exceeds the minimum accreditation standard of 120 credits, and also still complies with the other university rules regarding Core courses and upper division credits. Thus, the change is expected to have a positive impact on our students' success and rate of completion.