As expected, several algorithms have been revised during the fall 2014 semester (#3, #4 and #7). This document includes the most current versions of the algorithms and will be updated as further revisions are made. A revised final IBB report will be issued in January 2015.

The Algorithms
The IBB model recommended by the Steering Committee includes seven algorithms, each of which determines the allocation of either revenue or expense to a Responsibility Center (several of the algorithms have multiple components):

The Revenue Algorithms
Algorithm 1: Undergraduate Net Tuition
Algorithm 2: Graduate Net Tuition
Algorithm 3: Non-Degree and Summer Tuition
Algorithm 4: Indirect Cost Recovery (includes revenue and expense)
Algorithm 5: Other Income

The Expense Algorithms
Algorithm 6: Facilities and Space
Algorithm 7: Cost Pools (includes the Cost Centers)

Algorithm 1: Undergraduate Net Tuition
Undergraduate Net Tuition is defined as gross tuition less financial aid (the netting occurs before the revenue is allocated).

Undergraduate net tuition will be allocated as follows:
- 85% based on a college or school’s percentage of the two-year trailing average of weighted Student Credit Hours (SCH) taught (based on the home unit of the instructor of record). The SCHs will be weighted to reflect the relative national costs of instruction by college/school.
- 15% based on a college or school’s percentage of the two-year trailing average of majors.

Throughout this document, the instructor of record is defined as the individual recorded in Banner as the instructor of a course. The home unit of the instructor of record is defined as the home college or school of the instructor’s primary appointment.

Rationale: This algorithm provides colleges and schools with an incentive to offer innovative, high-quality undergraduate programs; to respond to student needs and demands; and to focus on student
recruitment and retention. It recognizes the differential costs of instruction via the weighting of SCHs as well as the demands of majors on an academic department.

**Algorithm 2: Graduate Net Tuition**

Graduate Net Tuition is defined as gross tuition less financial aid (the netting occurs after the revenue is allocated). The home college of a graduate student’s program will be allocated 100% of that student’s gross tuition and 100% of that student’s financial aid. Graduate Student Stipends will be paid by the hiring unit.

For every SCH a graduate student takes outside of his/her home college, the home college will pay the teaching college 85% of the University’s I/S per credit tuition rate.

The graduate net tuition generated by cross-college interdisciplinary programs such as the Food Systems Master of Science will be allocated to the Graduate College. The net tuition will then be distributed to each of the participating colleges and schools based on their percentage of the program’s total SCHs. Similarly, if any additional support is required for the program, the participating colleges and schools will provide the Graduate College with the financial resources required based on their percentage of the program’s total SCHs.

*Rationale:* This algorithm provides colleges and schools with an incentive to offer innovative, high-quality graduate programs; to respond to student needs and demands; and to focus on student recruitment and retention. It also supports interdisciplinary programs and recognizes the instructional costs associated with courses taken outside the student’s home college.

**REVISED ALGORITHM 3**

**Algorithm 3: Non-Degree and Summer Tuition (three components)**

Continuing and Distance Education (CDE) will be designated as a hybrid cost center. A portion of its revenue will be funded via revenue algorithms 3a and 3b, and a portion of its budget will reside in the cost pool and will be funded via expense algorithm 3c. This structure provides strong incentives for the academic units to maximize summer session’s revenue potential and incentives for the both the academic units and CDE to grow non-degree enrollment.

3a: Academic Year Non-Degree Net Tuition Revenue (a revenue algorithm)

Academic year non-degree net tuition revenue will be allocated as follows:
- 85% based on a college or school’s percentage of the non-degree SCH taught (based on the home unit of the instructor or record).
- 15% will be allocated to CDE.

3b: Summer Tuition Revenue (a revenue algorithm)

This includes tuition revenue from any student taught in the summer, and will be allocated as follows:
- 85% based on a college or school’s percentage of the summer SCH taught (based on the home unit of the instructor of record).
- 15% based on a college or school’s percentage of the majors taking summer courses; non-degree students will be counted as CDE majors.
3c: CDE Expenses (an expense algorithm)
CDE provides a services, expertise and efficiency that will allow the RCs to maximize summer revenue generation. Returning the majority of this revenue in this algorithm to the RCs provides the most transparent and effective incentives to the RCs, but does not provide CDE with the revenue necessary to cover its full costs. The CDE expenses that are not covered by the 15% allocation on non-degree enrollments – as well as other forms of revenue generated by CDE – will be allocated to the RCs on the basis of student FTE.

As noted in algorithm 1, the home unit of the instructor of record is defined as the home college or school of the instructor’s primary appointment.

Rationale: This algorithm aligns incentives and eliminates unproductive competition; it provides strong and transparent incentives for the academic units to engage in summer, and for both the academic units and CDE to grow non-degree enrollments; it also capitalizes on the expertise and efficiencies offered by CDE.

REVISED ALGORITHM 4

Algorithm 4: Indirect Cost Recovery (two components)
The Office of the Vice President for Research (OVPR) will be designated as a hybrid cost center. A portion of its budget will be funded via revenue algorithm 4a and a portion of its budget will reside in the cost pool and will be funded via expense algorithm 4b. This structure provides common incentives for both the OVPR and the Responsibility Centers (RC) to grow the University’s F&A revenue.

4a: F&A Revenue (a revenue algorithm)
Indirect cost recovery revenue generated by sponsored activities (commonly referred to as “F&A”) will be allocated as follows:

- In FY16, 99% of the F&A will be allocated to the RC of the grant’s Principal Investigator (PI) with the remaining 1% allocated to the Office of the Vice President of Research. If grants have multiple PI’s, then the F&A allocated to the RC(s) will be distributed according to their respective planned effort on the grant.
  - By FY18, this allocation will change such that 95% of the F&A will be allocated to the RC(s) and 5% to the OVPR. However, the Provost may choose to adjust these percentages in response to strategic needs and priorities.
- The OVPR will receive 100% of the F&A revenue associated with several university-wide interdisciplinary grants and centers/institutes.
- The OVPR will receive 100% of the F&A not allocated specifically to a Responsibility Centers.

As the percentage of F&A that is directed to OVPR increases from 1% to 5% over the subsequent two years, it is projected that the Research Investment Fund will grow to a level of approximately $1.6M annually. The size of the Research Investment Fund in a given year will then be driven by the University’s overall growth in F&A in that year.

4b: Research Enterprise Expenses (an expense algorithm)
The University’s research enterprise includes the OVPR, Sponsored Programs Administration; the Office of Technology Commercialization; the Instrument Model Facility and more. The remaining expenses of the Research Enterprise not funded by F&A as listed above will be allocated to an RC based on its percentage of the 3-year trailing average of sponsored awards. For example, if an RC generated 22% of the sponsored awards generated by all RC’s over the previous three years, it will be allocated 22% of the total cost of the remaining Research Enterprise expenses not already partially funded via Algorithm 4a.

Rationale: This algorithm provides incentives for the RCs to consider their research portfolios as a whole and grow them strategically; it provides the Office of the Vice President for Research with resources to invest strategically; and it allocates the expenses associated with the research enterprise to the units that utilize these services.

Algorithm 5: Other Income
“Other Income” (OI) is defined as revenue not directly related to tuition and research. Examples of OI include lab fees, vending fees, student application fees and the revenue generated by income expense activities both large and small such as the Luse Center in the College of Nursing and Health Sciences and Residential Life.

OI generated within a Responsibility Center will be allocated to that RC (e.g., the College of Nursing and Health Sciences would receive the revenue the Luse Center generates, and it would also receive the funding associated with any of its course fees).

OI generated by large self-sustaining income/expense activities that are not currently classified as RCs, but operate much like them in that they are responsible for their own revenue and expenses, will be allocated to those activities. Examples of these activities include Residential Life, the Bookstore, and the Center for Health and Wellbeing.

Undesignated OI generated more broadly, and typically by a cost center (e.g., vending fees, student application fees) will be allocated to the overall university revenue pool for broad distribution to the RCs via a reduction in the allocation of costs back to the Responsibility Centers.

Rationale: The revenue generated to meet the needs of a particular activity within an RC should be allocated back to the RC. Since the large self-sustaining income/expense activities are currently functioning successfully in an IBB-like way, it seemed wise to leave their operations undisturbed at this time. Undesignated OI is appropriately allocated for the benefit of the entire University.

Algorithm 6: Facilities and Space Costs
The costs associated with facilities (including physical space and utilities) will be allocated to a Responsibility Center based on its percentage of the total campus square footage. There will be no cost differentiation based on type of space, with the exception of barns and sheds which will be discounted by 80%.

The cost of “administrative units” space (includes all space that is not allocated to the RCs) is allocated to Responsibility Centers based on their share of the overall cost pool (algorithm 7). That is, if an RC’s
allocation of cost pool expenses is 22% of the total cost pool, it will be allocated 22% of the cost for administrative units’ space.

General purpose classroom space will be assigned to the Registrar’s Office, not a particular RC.

If a Responsibility Center is willing to invest in space improvements that will increase efficiency, we will develop a mechanism whereby measurable savings are shared with the RC.

**Rationale:** Generally speaking, each RC has a facility mix that includes space that is both new and historical; efficient and inefficient; and high and low tech. Additionally, only some of the buildings on campus are metered, making precise energy costs undeterminable. For these reasons, it seemed reasonable to allocate facilities costs on a uniform assignable square foot basis.

**REVISED ALGORITHM 7**

**Algorithm 7: Cost Pools**
The approximately 80 Cost Centers have been grouped into six different cost pools (Appendix H) and their expenses are allocated based on the following cost drivers:

- Management Services – unrestricted expenses
- Organizational Support Services – faculty and staff headcount
- Student/Academic Services – student FTE
- Community/Inclusion Services – total headcount (faculty, staff, students)
- Libraries and Information Technology Services – total FTE (30%), total headcount (30%), student FTE (20%), faculty/staff headcount (20%)
- The UVM Foundation – unrestricted expenses

In cost pools that include SCH-based FTEs as a driver, Graduate SCHs will be deflated by 80%.

**Rationale:** The clarity of the cost pool algorithms will allow RC managers to quickly and easily understand the expense implications associated with potential actions. The transparency of the algorithms sheds light on the costs of the service providers which may lead to reductions in costs and/or an increase in the effectiveness, efficiency, and accountability of the Cost Centers. Using expenses as a cost driver also encourages cost reduction on the part of the Responsibility Centers. Limiting the driver to unrestricted expenses encourages units to seek external funding. Deflating Graduate SCH-based FTEs will incent growth in two critical areas identified in the Academic Excellence Goals: growth in graduate education and distance education.

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1 Unrestricted expenses include all general fund and income/expense activity expenses.