Research Spotlight

Excess at the End: Investigating Degree Audits of Bachelor’s-Earning Transfer Students
Curricular Alignment or Degree Pathways, Matriculation Trends and Issues

 Millions of students graduate with bachelor’s degrees, many with excess credit hours (ECH) that do not apply to their degree requirements. Research has identified that transfer students accrue unused credits at a higher rate than their non-transfer peers. However, it fails to consider credit requirements by specific majors, explore patterns for excess courses, or distinguish accrual amongst transfer students from various institution types. This study addresses these gaps by examining ECH among transfer students who received bachelor-degrees from a large public research university.

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The Ohio State University
Excess at the End:
Investigating Degree Audits of Bachelor’s-Earning Transfer Students

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Research and Program Assessment
Research on ECH

Students—particularly transfer students—often graduate with more credit than needed to meet degree requirements

Increased costs  Increased time-to-degree  Reduced degree attainment

(CCA, 2011; Fink et al., 2018; Kinne et al., 2013; Monaghan & Attewell, 2015; Sidhu et al., 2016; Xu et al., 2018)
Cost and Drivers

Research suggests ECHs can cost some states over $1M

• Curb student behavior with surcharges
  • Example: Florida’s 120% legislation

Suggested drivers of ECH:

• Taking courses outside of a major program
• Switching majors
• Taking personal/professional development courses
• Duplicating courses
Transfer students accrue more ECH than non-transfers

Students who take lower-level courses after transfer may accumulate more ECH than their other transfer peers

Credit articulation frameworks between community colleges and 4-year institutions do not guarantee applicability and may result in ECH

Misaligned or ill-defined pathways are theorized to generate ECH and extend time-to-degree
Defining and Calculating ECH

Much of the current literature may inflate or confuse estimation of ECH by:

- Assuming graduation requirements based on state or institutional guidelines
- Failing to differentiate “developmental” or “remedial” course credits

These basic methodological decisions have the potential to drastically alter the results and practical implications of a study.
## Distinct Categories of ECH

<table>
<thead>
<tr>
<th>Inapplicable Excess Credits (IEC)</th>
<th>Potentially Applicable Excess Credits (PAEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.e., <strong>Did not apply to graduation</strong></td>
<td>i.e., <strong>Potentially applied to graduation</strong></td>
</tr>
<tr>
<td>Developmental, duplicated, or otherwise explicitly disallowed*</td>
<td>Do not fulfill any specific program requirements (either GEs or major specific requirements)*</td>
</tr>
</tbody>
</table>
Examine the application of credit using degree audits

- How does the application of credit vary across types of students
- Investigate the average and potential sources of ECH for transfers
- Identify which courses are often excess
Sample

- MidU: large highly selective research university in the Midwest
- \( N = 12,461 \) unique students
  - Completers with a single bachelor’s degree with a single major and no minor
- Students graduated from 297 different degree programs
  - 207 (69.7\%) required 121 hours
Student Types

Student Types (N=12,461)

- Non-Transfer: 6,863 (55%)
- External-Transfer: 4,433 (36%)
- Internal-Transfer: 1,165 (9%)
94% of students had some amount of ECH

85% of students obtained credit before enrollment

More major and college changes correlated with more ECH
Average ECH by Student Type

All pairwise comparisons significant $p < .01$
Credit Before Enrollment

<table>
<thead>
<tr>
<th></th>
<th>% Enrolling w/ Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXTERNAL-TRANSFER</strong></td>
<td>100 w/ credit</td>
</tr>
<tr>
<td><strong>NON-TRANSFER</strong></td>
<td>80.8 w/ credit</td>
</tr>
<tr>
<td></td>
<td>19.2 w/o credit</td>
</tr>
<tr>
<td><strong>INTERNAL-TRANSFER</strong></td>
<td>49.1 w/ credit</td>
</tr>
<tr>
<td></td>
<td>50.9 w/o credit</td>
</tr>
</tbody>
</table>
Average Credit at Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Excess Credit</th>
<th>Applicable Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Transfer</td>
<td>17.3</td>
<td>45.4</td>
</tr>
<tr>
<td>Non-Transfer</td>
<td>6.9</td>
<td>13.3</td>
</tr>
<tr>
<td>Internal Transfer</td>
<td>1.5</td>
<td>7.8</td>
</tr>
</tbody>
</table>

- **62.7 Credits (28%)**
- **20.2 Credits (34%)**
- **9.3 Credits (84%)**
Excess Credits by Major Changes

<table>
<thead>
<tr>
<th>Major changes</th>
<th>External-transfer</th>
<th>Internal-transfer</th>
<th>Non-transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20.2</td>
<td>8.6</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>20.7</td>
<td>10.2</td>
<td>13.9</td>
</tr>
<tr>
<td>2</td>
<td>23.9</td>
<td>10.8</td>
<td>16.2</td>
</tr>
<tr>
<td>3+</td>
<td>26.3</td>
<td>12.5</td>
<td>18.7</td>
</tr>
</tbody>
</table>

*at receiving institution for External-Transfers
Examining ECH for External-Transfer Students
Transfer Institution Types

Institution Type

- 2-yr: 44%
- 4-yr: 48%
- Other: 8%

2-yr Breakdown

- Other 2-yr: 40%
- Partner CC: 60%
Initial Points of Consideration: External-Transfers

- Most transfer students’ ECH is obtained before MidU
- Sig. differences of ECH between students from 2-and 4-yrs
- Courses which articulate as General, Special, or Technical credit are often excess
For transfer students, almost all ECH is accumulated before enrolling at MidU

- **ECH Before MidU**: 17.3
- **ECH 1st Term**: 1.2
- **ECH 2nd+ Terms**: <1
Excess Credit by Transfer Institution Type

MEAN POTENTIALLY APPLICABLE EC*

- 2-yr: 20.6
- 4-yr: 18.9

MEAN INAPPLICABLE EC**

- 2-yr: 6.4
- 4-yr: 3.3

* p < .05
** p < .01
Excess Credit by Transfer Institution Type

**Mean Potentially Applicable EC**
- Partner CC: 18.4
- Other 2-yr: 23.9
- 4-yr: 18.9

**Mean Inapplicable EC**
- Partner CC: 6.5
- Other 2-yr: 6.2
- 4-yr: 3.3

*Other 2-yr v. 4-yr*** p < .001
*Partner CC v. 2-yr*** p < .001

*Partner CC v. 4-yr*** p < .001
# Excess Courses for Transfer Students (PAEC or IEC)

## Excess Course Type

<table>
<thead>
<tr>
<th>Transfer</th>
<th>MidU 27%</th>
</tr>
</thead>
</table>

## Top Excess Courses for Transfer Students

<table>
<thead>
<tr>
<th>Transferred G/S/T Courses</th>
<th>Articulated Transfer Courses</th>
<th>MidU Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science General</td>
<td>MATH 1040 Low-level Math</td>
<td>FDSCTE 1120 Wine &amp; Beer</td>
</tr>
<tr>
<td>Kinesiology Special</td>
<td>COMM 2110 Public Speaking</td>
<td>MATH 1075 Precollege Math</td>
</tr>
<tr>
<td>FY Seminar Special</td>
<td>MATH 1075 Precollege Math</td>
<td>FDSCTE 1110 Chocolate Science</td>
</tr>
<tr>
<td>Nursing Technical</td>
<td>CSE 1110 Intro Comp Tech</td>
<td>EDUTL 1902 ESL Writing</td>
</tr>
<tr>
<td>Education General</td>
<td>MATH 1148 College Algebra</td>
<td>ESEPSY 1259 Learning Strategy</td>
</tr>
</tbody>
</table>
Top Excess Courses by Student Type (PAEC & IEC)

**External-transfer**
- Computer Science General
- Kinesiology Special
- FY Seminar Special
- Nursing Technical
- Precollege Math
- Education General
- Social Science General
- Communications General
- Public Speaking
- Chemistry General

**Internal-transfer**
- Precollege Math
- Wine & Beer
- Trigonometry
- College Algebra
- Chocolate Science
- Individual Studies
- Change Seminar
- Algebra for Business
- Intro Sociology
- First Aid and CPR

**Non-transfer**
- Wine & Beer
- Scholar Survey Course
- Chocolate Science
- American Civilization
- Calculus I
- Spanish I
- Intro Physics I
- Intro Physics II
- Yoga
- Organic Chemistry
General Credit Application

% COURSES FULFILLING REQUIREMENTS
- Potentially Applicable
- Fulfill Requirements

<table>
<thead>
<tr>
<th>Type</th>
<th>Potentially Applicable</th>
<th>Fulfill Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-TRANSFER</td>
<td>14.8</td>
<td>85.2</td>
</tr>
<tr>
<td>EXTERNAL-TRANSFER</td>
<td>19.5</td>
<td>80.5</td>
</tr>
<tr>
<td>INTERNAL-TRANSFER</td>
<td>11.6</td>
<td>88.4</td>
</tr>
</tbody>
</table>

% COURSE APPLICABILITY
- Excess
- Applicable

<table>
<thead>
<tr>
<th>Type</th>
<th>Excess</th>
<th>Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-TRANSFER</td>
<td>1.8</td>
<td>98.2</td>
</tr>
<tr>
<td>EXTERNAL-TRANSFER</td>
<td>2.9</td>
<td>97.1</td>
</tr>
<tr>
<td>INTERNAL-TRANSFER</td>
<td>6.4</td>
<td>93.6</td>
</tr>
</tbody>
</table>
Implications

Accumulation of ECH is common among our entire sample with significant differences between student- and institution-types.

- Suggesting that addressing ECH requires additional investigation and will likely require a multipronged approach to address accumulation from various sources.

Transfer students accumulate the majority of ECH before arriving to MidU.

- Suggesting potential misalignment in program maps and degree planning before and after transfer; strengthening sending and receiving partnerships may support efficient course-taking.

Transfer courses that articulate to general credit are unlikely to fulfill specific major requirements or contribute to degree credit minimums.

- Suggesting 4-yr institutions need to work with partners to clarify the 4-yr degree options that are available, and to help students explore and identify their path early on (and in the meantime, to take credits which will be broadly applicable).
Questions? Comments?

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