Proposed Initiative for 2015-16

Initiative Proposal Process and Timeline:

- 10/17/14 – Individuals/groups submit proposals via email (using this form) to their Unit Head for consideration. “Unit Heads” include:
  - College Deans: Brad Caskey, Michael Frommueller, Dale Gallenberg, and Larry Solberg
  - Chancellor, Dean Van Galen
  - Provost, Fernando Delgado
  - Associate Vice Chancellor-Student Affairs, Gregg Heinselman
  - Assistant Chancellor-Business and Finance, Elizabeth Frueh
  - Associate Vice Chancellor for Enrollment and Student Success, Kris Anderson
  - Faculty Senate Chair, David Rainville

- 10/27/14 – Unit heads submit approved unit proposals via email to Provost, cc: Wendy Stocker

- 11/12/14 – SPPC requests any clarifying information needed from Unit Head/Proposer

- 12/01/14 – Unit Head/Proposer provides clarifying information to SPPC

- 12/19/14 – SPPC completes ranking and review of initiatives and forwards to Faculty Senate, Cabinet, and Proposers

- Spring semester 2015 – Initiatives finalized, built into 2015-16 budget and communicated to campus.

1. Initiative Name:
   Building New URSCA Capacities from the Ground Up: Student-Centered 3D Printing

2. Please describe proposed initiative: *(please limit to 500 characters or less)*
   This initiative would establish a central campus spot for one or more 3D printers depending on the availability of funds. Personnel from DOTS would receive training on operating the 3D printers, and then would provide training for up 20 students who would be 3D Printer Mentors (3DPMs). The 3DPMs would be selected from multiple disciplines, and would each commit to completing the training and developing proficiency. The 3DPMs would each provide forty hours of support for UWRF students or staff who have 3D printing needs during the 2015-16 academic year.

3. Person, administrative department, or college proposing the initiative:
   Jim Madsen

4. Which strategic goal does this initiative support?
   Goal 1 DISTINCTIVE ACADEMIC EXCELLENCE

5. Describe how the initiative supports the goal(s): *(please limit to 1000 characters or less)*
   To compete in the 21st century, students must have access to technologies that allow them to express themselves in new ways. While 3D printers are becoming more commonplace, only a limited number of campuses have a supported space with proficient personnel that can help students develop new skills and make previously impossible projects realizable. Having the ability to utilize 3D printers will be a distinctive skill that will increasingly be in demand for a wide range of careers.

6. Place an X next to the strategic plan metric(s) below that you anticipate would be positively affected as a result of this initiative.
## GOAL 1: DISTINCTIVE ACADEMIC EXCELLENCE

1. Increase selectivity of 1st time, first year admits to the university

2. Increase number of entering 1st time, first year students with composite ACT scores of 25 and above

3. Increase number of entering 1st time, first year students with AP test pass scores

4. **Metric discontinued (data not available)**
   - Improve performance on NSSE scores related to research projects, study abroad, and field experiences.

5. Increase the number of students engaged in undergraduate and collaborative research activities as tracked by the URSCA Office. **X**

6. Increase the number of student participants at regional or national scholarly meetings. **X**

7. Decrease the number of entering 1st time, first-year students with composite ACT scores 19 and below

8. Decrease the number of students taking remediation courses

9. Increase the number of graduates going on to graduate or professional school

## GOAL 2: GLOBAL EDUCATION AND ENGAGEMENT

10. Move to the top 5 of comprehensives in international students studying on campus

11. Increase the number of visiting international scholars

12. Become ranked #1 in UW System in percentage of students participating in study abroad programs

13. Increase student cultural competence (NSSE)

14. Increase percentage of courses and degree programs infused with significant global component

15. Increase student participation in globally related events

## GOAL 3: INNOVATION AND PARTNERSHIPS

16. Increase the total dollars of privately funded scholarships awarded annually

17. Increase to 320 the number of Falcon Scholars enrolled and supported by private gifts

18. Increase the number of external research collaborations

19. Increase the number of research grants received and dollars received

20. Increase the number of internships and practica completed by UWRF students

21. Increase the course enrollment at UW-River Falls Hudson Center

---

7. **Based on the definition of university-wide Initiative [initiative that spans across colleges, units, and departments], indicate how the proposed initiative has a university-wide impact:** *(please limit to 1000 characters or less)*

The 3D printer will be accessible to all students. The proposed approach is similar to that employed for the large format printer available for student posters. Students receive training and guidance on developing an effective poster from their research mentor. The final product is then sent for printing, and individual departments do not have to purchase and try to maintain equipment that is only needed intermittently. The difference here is that there are significantly greater design flexibilities with 3D printers, and more knowledge is needed to produce a useful object. One or more DOTS employee would receive the training need to develop proficiency operating and maintaining the 3D printer. The 3DPMs, drawn from
departments across the campus, would receive extensive training that would enable them to do peer-to-peer training to significantly boost the use of the 3D printers.

8. **Please provide a set of other benchmarks and / or indicators that will mark progress or success of your initiative.** *(please limit to 1000 characters or less)*

- At least one 3D printer will be purchased with outside funds.
- Space will be identified, remodeled as needed, and the 3D printer will be installed with a suitable computer.
- At least one UWRF DOTS staff member will develop sufficient proficiency to lead training sessions for 3DPMs.
- Training sessions will be conducted for a minimum of 5 3DPMs, with a maximum of 15 3DPMs, depending on funding levels.
- By the end of 2015-16 academic year, each of the 3DPMs will have provide 40 hours of support for UWRF students and staff working on 3D printer projects.

9. **Indicate, to the best of your consideration, which of the foundational elements the initiative will engage. You will have opportunity to elaborate on each element in later sections of the proposal.** *(place an X in the Yes or No column for each)*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Inclusiveness</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Human Capital</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Technology</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Facilities</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

10. **SUSTAINABILITY**: Indicate how SUSTAINABILITY would be affected by the initiative. If SUSTAINABILITY is not affected by the initiative, please describe why not. *(please limit to 1000 characters or less)*
There is no direct impact on sustainability other than the plastics used in the 3D printers can be recycled.

11. **INCLUSIVENESS**: Indicate how INCLUSIVENESS would be affected by the initiative. If INCLUSIVENESS is not affected by the initiative, please describe why not. *(please limit to 1000 characters or less)*
There is no direct impact on inclusiveness other than providing access to all students to technology that is rapidly becoming main stream. This project proposes to provide training to enable UWRF students to have access to this emerging technology that will open up new possibilities for USRCA projects will developing high-demand skills for the 21st century workplace.
12. HUMAN CAPITAL: Indicate how HUMAN CAPITAL would be affected by the initiative, including staff levels, organizational structure, and/or functional priorities. (please limit to 1000 characters or less)
Funds are requested to train DOTS personnel to maintain and operate the 3D printer. Funds are also requested to compensate students during their training, and for their work mentoring students.

13. TECHNOLOGY: Indicate how TECHNOLOGY would be affected by the initiative. If TECHNOLOGY is not affected by the initiative, please describe why not. (please limit to 1000 characters or less)
Advances in computing and manufacturing technology are making it possible to print three-dimensional objects at a price point feasible for the consumer market. 3D printers are available to meet needs ranging the home hobbyist to rapid prototyping to full-scale high volume manufacturing. 3D printers are being installed at select UPS retail stores\(^1\), and have been tested on the International Space Station\(^2\). Since the 3D printers are controlled by computers, and DOTS oversees and maintains the conventional printers, it seems prudent to have DOTS serve a similar role for the 3D printers.

14. FACILITIES: Indicate how FACILITIES would be affected by the initiative. If FACILITIES is not affected by the initiative, please describe why not. (please limit to 500 characters or less)
Space would have to be identified to house the 3D printer. Preliminary discussions with DOTS indicate that there are spaces available that could serve as the home to the 3D printers.

15. FINANCE: Provide estimated funding needs below. Additional comments can be included below the table, if needed.

<table>
<thead>
<tr>
<th>Item</th>
<th>One-Time</th>
<th>On-going Annual Add to Base Budget</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>$2000.00</td>
<td>$10,000.00 to $20,000.00</td>
<td>$2000 for DOTS personnel training cost $10,000 to $20,000 for 10-20 3DPM stipends</td>
</tr>
<tr>
<td>Benefits (58% of Salary)</td>
<td>$1160.00</td>
<td></td>
<td>Benefits for DOTS personnel only</td>
</tr>
<tr>
<td>S&amp;E</td>
<td>$1000.00</td>
<td></td>
<td>Consumable supplies for first year</td>
</tr>
<tr>
<td>Travel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>$10,000.00</td>
<td></td>
<td>3D printer, and scanner</td>
</tr>
<tr>
<td>Remodeling</td>
<td>$1000.00</td>
<td></td>
<td>Add electrical circuits, venting as needed</td>
</tr>
</tbody>
</table>

\(^1\) [http://www.theupsstore.com/small-business-solutions/Pages/3D-printing.aspx](http://www.theupsstore.com/small-business-solutions/Pages/3D-printing.aspx)

<table>
<thead>
<tr>
<th>Other</th>
<th>Amount</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL</strong></td>
<td>$25,160.00</td>
<td>Total would depend on the number of 3DPM supported at $1000.00 each</td>
</tr>
<tr>
<td></td>
<td>to $35,160.00</td>
<td></td>
</tr>
<tr>
<td><strong>Anticipated grants or matching funds</strong></td>
<td>$10,000.00</td>
<td>Outside funds have tentatively been earmarked for buying the equipment.</td>
</tr>
</tbody>
</table>